

=> fil casreact

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FILE CONTENT:1840 - 19 Jun 2005 VOL 142 ISS 25

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 \*  
 \* CASREACT now has more than 9.2 million reactions \*  
 \*  
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Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que 113

L1 STR

RRT 8	RRT 4	PRO 12
G2	X	H
{	{ 2	{
G2~~S~~O	G1~~C~~X	G1~~C=O
5 6 7	1 { 3	9 10 11
	H	
	13	

VAR G1=AK/CY

VAR G2=AK/CY

NODE ATTRIBUTES:

CONNECT IS E3 RC AT 6

CONNECT IS E1 RC AT 7

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

\*\*\*\*\*MAPPINGS\*\*\*\*\*

NOD SYM	ROL	NOD SYM	ROL
2 C	RRT	10 C	PRO
10 C	PRO	2 C	RRT
L11	2583 SEA FILE=CASREACT ABB=ON	PLU=ON	ALDEHYDE/FG.PRO (L) (SULFOXID

L13 E/FG.RCT OR SULFOXIDE/FG.RGT)  
12 SEA FILE=CASREACT SUB=L11 SSS FUL L1 ( 130 REACTIONS)

=> d 113 ibib abs crd 1-12

L13 ANSWER 1 OF 12 CASREACT COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 139:164928 CASREACT  
TITLE: Synthesis and biological evaluation of novel  
leucomycin analogues modified at the C-3 position. I.  
Epimerization and methylation of the 3-hydroxyl group  
AUTHOR(S): Furuuchi, Takeshi; Kurihara, Ken-Ichi; Yoshida,  
Takuji; Ajito, Keiichi  
CORPORATE SOURCE: Pharmaceutical Research Center, Meiji Seika Kaisha,  
Ltd., Yokohama, 222-8567, Japan  
SOURCE: Journal of Antibiotics (2003), 56(4), 399-414  
CODEN: JANTAJ; ISSN: 0021-8820  
PUBLISHER: Japan Antibiotics Research Association  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB. The synthesis and biol. evaluation of sixteen-membered macrolides modified at the C-3 position are described. 3-Epi-leucomycin A7, 3-O-acyl-3-epi-leucomycin A7 analogs, 3-O-acylleucomycin A7 analogs and 3-O-methylleucomycin analogs were synthesized via fully protected intermediates. After appropriate modification, subsequent deprotections were performed to furnish a variety of leucomycin analogs. Methylation of the 3-hydroxyl group was found to improve the pharmacoprofile of leucomycin antibiotics. 3-O-Methylrokitamycin (I) showed enhanced antibacterial activity in vitro and 3,3''-di-O-methyl-4''-O-(3-methylbutyl)leucomycin V (II) exhibited improved metabolic stability in rat plasma in vitro.

RX(111) OF 182 - REACTION DIAGRAM NOT AVAILABLE

RX(112) OF 182 - REACTION DIAGRAM NOT AVAILABLE

RX(113) OF 182 - REACTION DIAGRAM NOT AVAILABLE

RX(114) OF 182 - REACTION DIAGRAM NOT AVAILABLE

RX(115) OF 182 - REACTION DIAGRAM NOT AVAILABLE

RX(116) OF 182 - REACTION DIAGRAM NOT AVAILABLE

RX(123) OF 182 - REACTION DIAGRAM NOT AVAILABLE

RX(130) OF 182 - REACTION DIAGRAM NOT AVAILABLE

RX(137) OF 182 - REACTION DIAGRAM NOT AVAILABLE

RX(139) OF 182 - REACTION DIAGRAM NOT AVAILABLE

RX(140) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(141) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(142) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(143) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(144) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(145) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(146) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(147) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(148) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
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RX(153) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(154) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(155) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(156) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(162) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(164) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(165) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(166) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(167) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(168) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(169) OF 182 - REACTION DIAGRAM NOT AVAILABLE  
RX(175) OF 182 - REACTION DIAGRAM NOT AVAILABLE

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 2 OF 12 CASREACT COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 137:338079 CASREACT  
TITLE: Conformationally constrained analogues of diacylglycerol (DAG). Part 19: Asymmetric syntheses of (3R)- and (3S)-3-hydroxy-4,4-disubstituted

hepteno-1,4-lactones as protein kinase C (PK-C)  
ligands with increased hydrophilicity

AUTHOR(S): Nacro, Kassoum; Lee, Jeewoo; Barchi, Joseph J.; Lewin, Nancy E.; Blumberg, Peter M.; Marquez, Victor E.

CORPORATE SOURCE: Center for Cancer Research, Laboratory of Medicinal Chemistry, National Cancer Institute at Frederick, Frederick, MD, 21702, USA

SOURCE: Tetrahedron (2002), 58(26), 5335-5345

CODEN: TETRAB; ISSN: 0040-4020

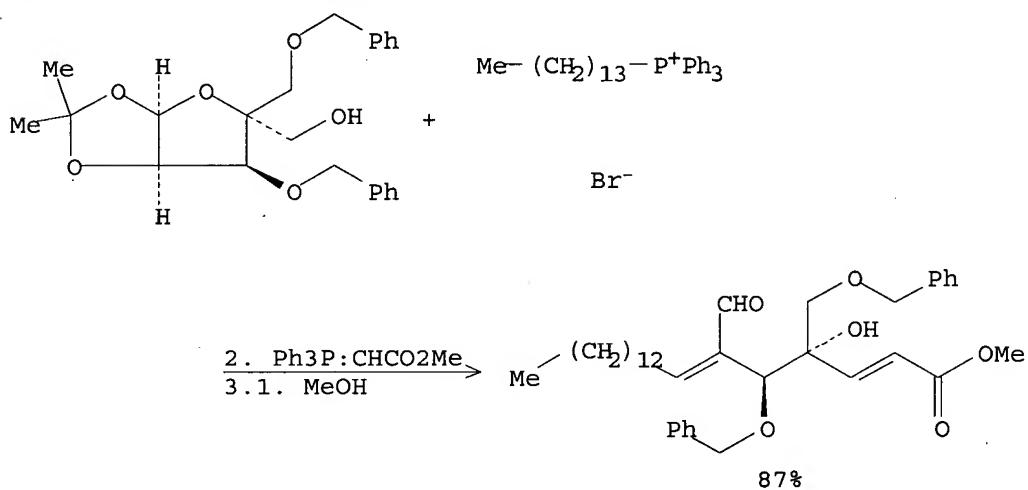
PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

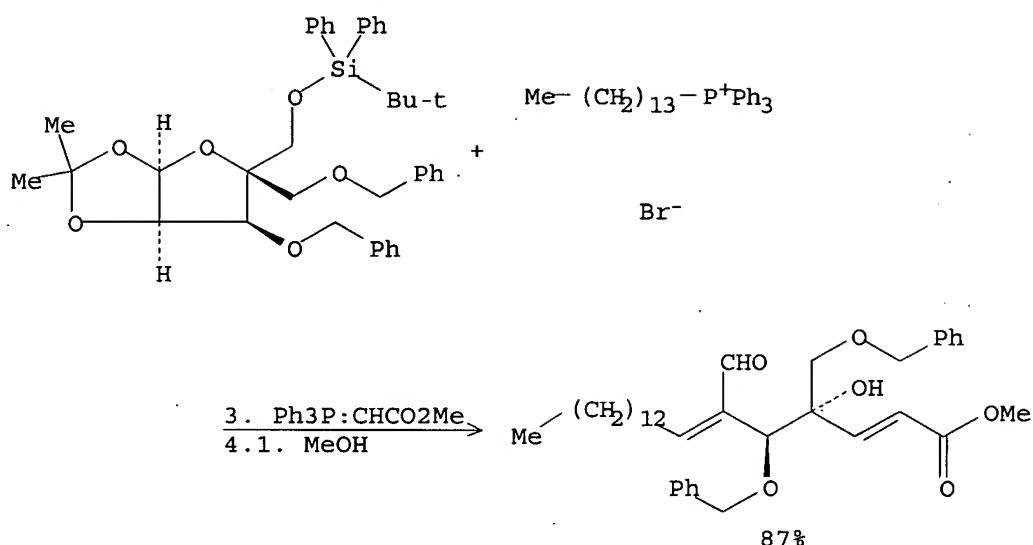
AB The stereospecific introduction of (R)- and (S)-OH groups at position C-3 of two diacylglycerol  $\gamma$ -lactones (DAG-lactones) previously identified as strong protein kinase C (PK-C) ligands is presented. The compds. were designed to investigate whether the extra OH group in a specific orientation could establish an addnl. hydrogen bond with the C1 domain of PK-C, thus providing a DAG analog with reduced lipophilicity. The OH groups were introduced following two different diastereoselective multistep syntheses starting from diacetone-d-glucose. The PK-C binding affinities for the new compds. were weaker in comparison to those of the parent compds., suggesting that the extra OH does not engage efficiently in hydrogen bonding at the receptor.

RX(163) OF 213 - 6 STEPS



NOTE: 3) other product also detected, second anomer was not characterized, yield of second anomer was 23%, 4) Swern oxidation

RX(164) OF 213 - 7 STEPS



NOTE: 4) other product also detected, second anomer was not characterized, yield of second anomer was 23%, 5) Swern oxidation

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

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\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 3 OF 12 CASREACT COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 132:137730 CASREACT

TITLE: Preparation of derivatized resins useful for solid-phase peptide synthesis, combinatorial chemistry, and peptide or protein purification and separation

INVENTOR(S): Siev, Daniel V.; Semple, J. Edward; Weinhouse, Michael I.

PATENT ASSIGNEE(S): Corvas International Inc., USA

SOURCE: PCT Int. Appl., 96 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000005243	A2	20000203	WO 1999-US16828	19990723
WO 2000005243	A3	20000420		

W: JP

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,

PT, SE

US 6787612

B1 20040907

US 1998-122576 19980724

EP 1100812

A2 20010523

EP 1999-935908 19990723

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, FI

JP 2002521385

T2 20020716

JP 2000-561199 19990723

PRIORITY APPLN. INFO.:

US 1998-122576 19980724

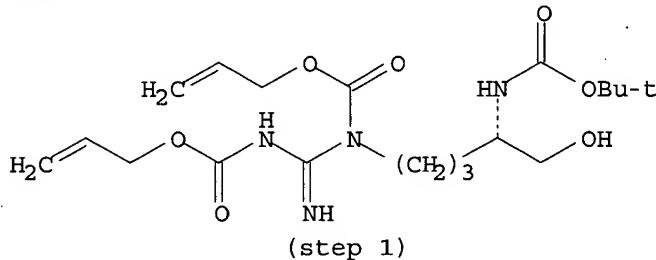
WO 1999-US16828 19990723

AB This invention provides a method for producing a derivatized resin of formula R4NH(C:X)Y-Z-SS [R4 = (un)protected NH2 or OH; X = O, S, NR7; R7 = H, alkyl, alkenyl, aryl, aralkyl, cycloalkyl, heterocyclyl; Y = absent, NH, CH2; Z = absent, NH, O, CO, S, SO2, alkyl, alkenyl, aryl, aralkyl, cycloalkyl, heterocyclyl, and combinations thereof, with provisos; SS = solid support], useful in the arts of solid-phase peptide synthesis, combinatorial chemical, and peptide or protein purification and separation

## Methods for

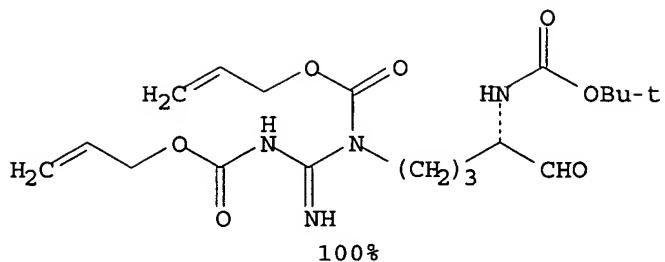
synthesizing the derivatized resin, the prototypical example of which is hydrazyl-carbonyl-aminomethylated polystyrene (HCAM resin), are disclosed. Thus, aminomethylated polystyrene was coupled with t-Bu carbazate using 1,1-carbonyldiimidazole in DMF and deprotected with DCM/TFA to give HCAM resin. Alternatively, HCAM resin was also prepared by coupling of hydrazine to aminomethylated polystyrene using 1,1-carbonyldiimidazole in DMF. Reaction of an aldehyde or ketoamide with the free amino group of the resin results in an immobilized product, through a semicarbazone moiety, which can be manipulated using standard solid-phase peptide synthetic methods. As opposed to known methods for peptide aldehyde or ketoamide synthesis, the process of this invention provides, among other benefits, a method of solid-phase peptide or peptide analog synthesis that minimizes the amount of solution phase synthetic steps required.

RX(22) OF 249



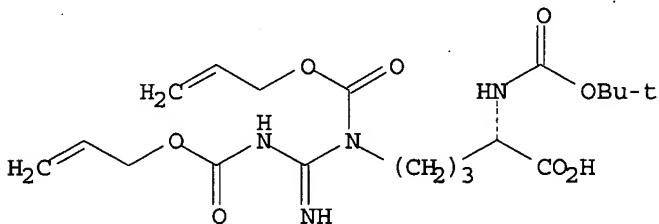
1. C12CHCO2H, EDAP,  
DMSO, CH2Cl2
2. Water
3. Et2O

RX (22) OF 249



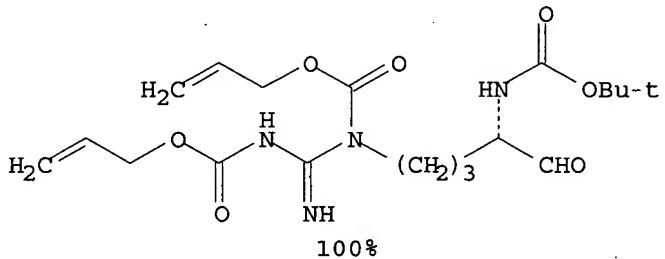
NOTE: STEREOSELECTIVE

RX (38) OF 249 - 2 STEPS



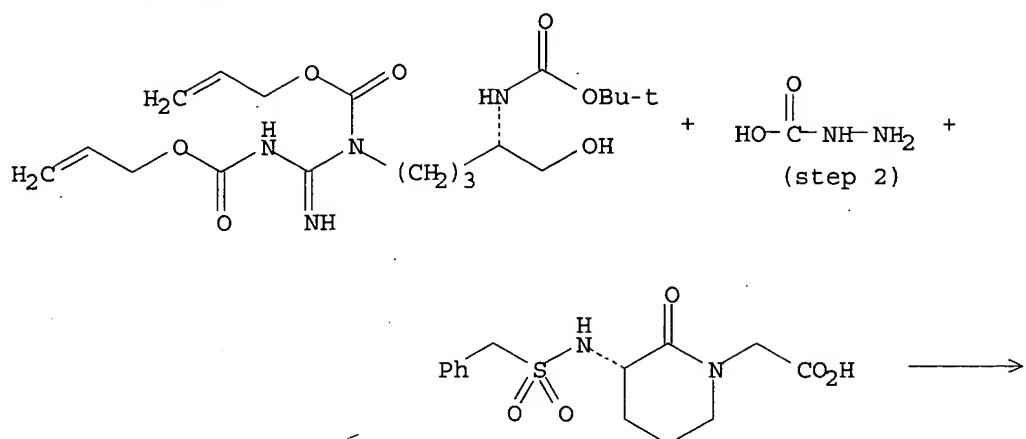
- 1.1. Et<sub>3</sub>N, ClCO<sub>2</sub>Bu-i,  
THF
- 1.2. Pyridine
- 1.3. Water
- 1.4. HCl →
- 1.5. AcOEt
- 2.1. Cl<sub>2</sub>CHCO<sub>2</sub>H, EDAP,  
DMSO, CH<sub>2</sub>Cl<sub>2</sub>
- 2.2. Water
- 2.3. Et<sub>2</sub>O

RX (38) OF 249 - 2 STEPS

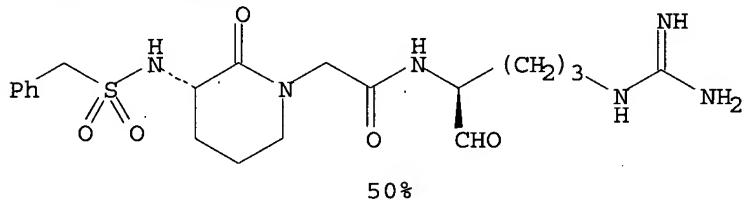


NOTE: 1) STEREOSELECTIVE, 2) STEREOSELECTIVE

## RX(163) OF 249 - 6 STEPS

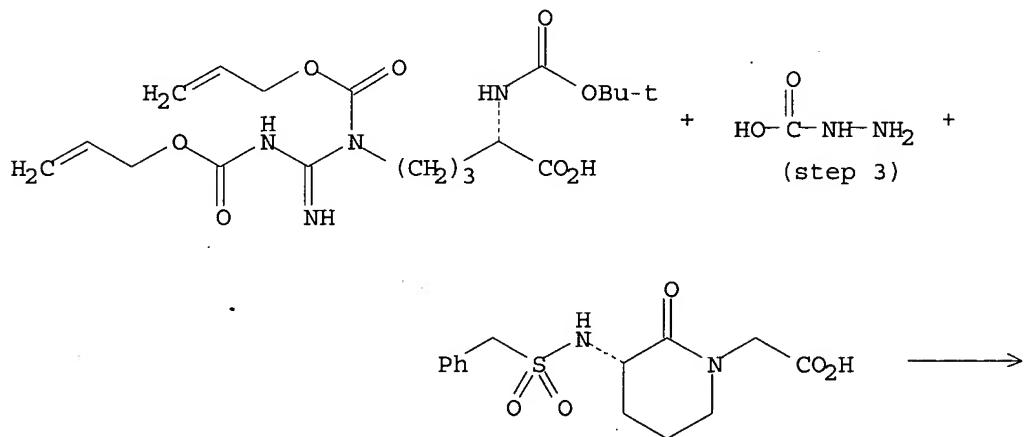


## RX(163) OF 249 - 6 STEPS

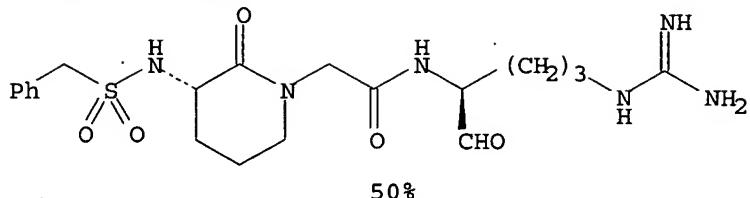


NOTE: 1) STEREOSELECTIVE, 2) RESIN SUPPORTED REACTION, 3) RESIN SUPPORTED REACTION, 4) RESIN SUPPORTED REACTION, 5) RESIN SUPPORTED REACTION, 6) RESIN SUPPORTED REACTION

## RX(164) OF 249 - 7 STEPS

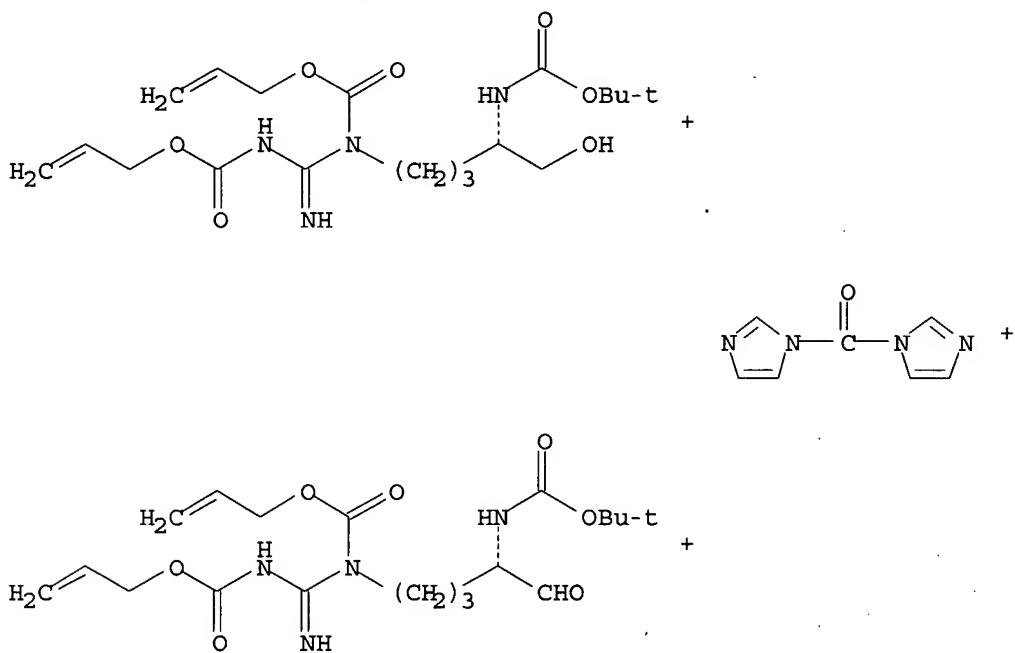


RX(164) OF 249 - 7 STEPS

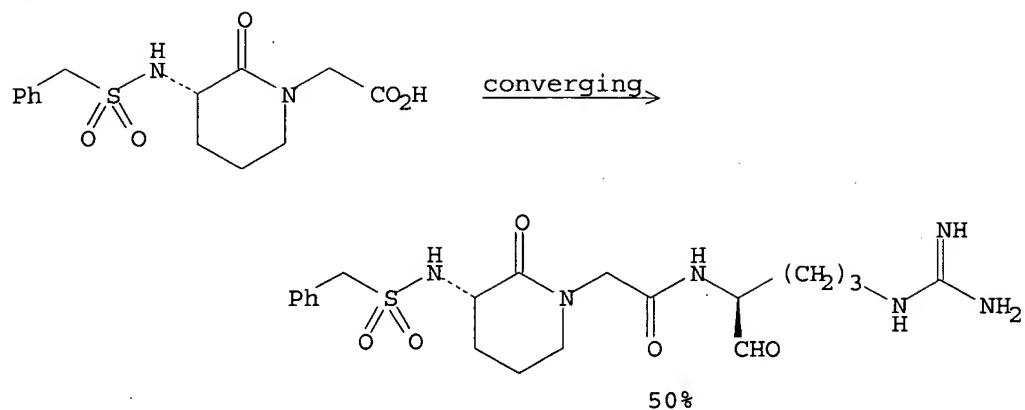


NOTE: 1) STEREOSELECTIVE, 2) STEREOSELECTIVE, 3) RESIN SUPPORTED REACTION, 4) RESIN SUPPORTED REACTION, 5) RESIN SUPPORTED REACTION, 6) RESIN SUPPORTED REACTION, 7) RESIN SUPPORTED REACTION

RX(206) OF 249 - 7 STEPS

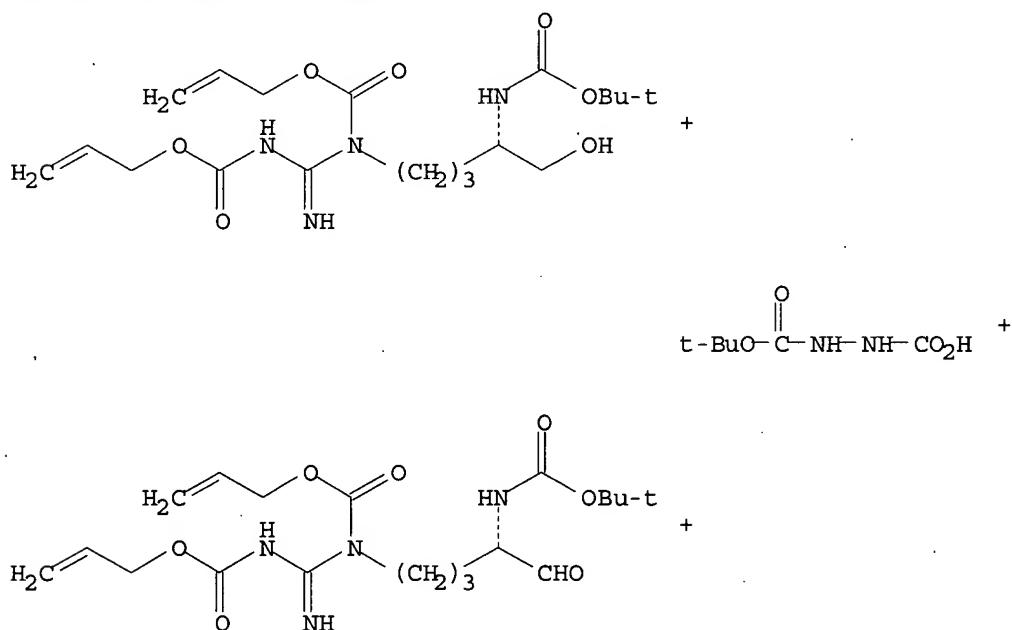


RX(206) OF 249 - 7 STEPS

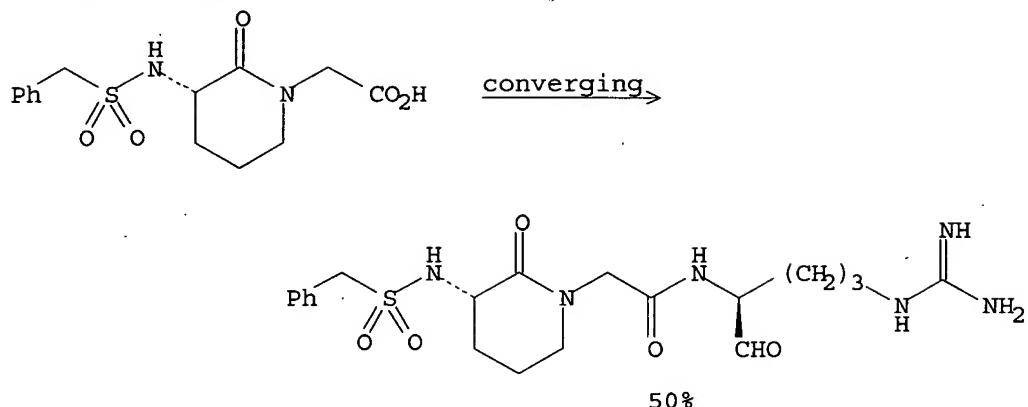


NOTE: RESIN SUPPORTED REACTION, STEREOSELECTIVE

RX(208) OF 249 - 7 STEPS

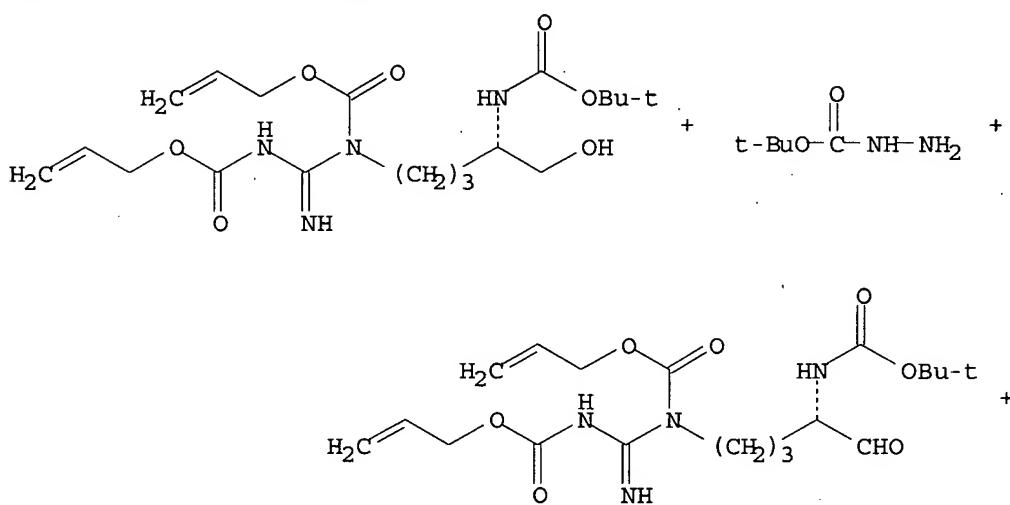


## RX (208) OF 249 - 7 STEPS

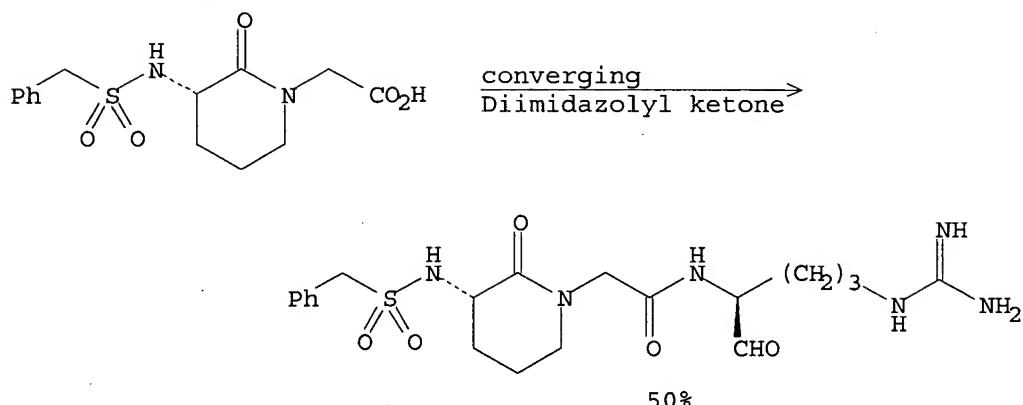


NOTE: RESIN SUPPORTED REACTION, STEREOSELECTIVE

## RX (210) OF 249 - 8 STEPS

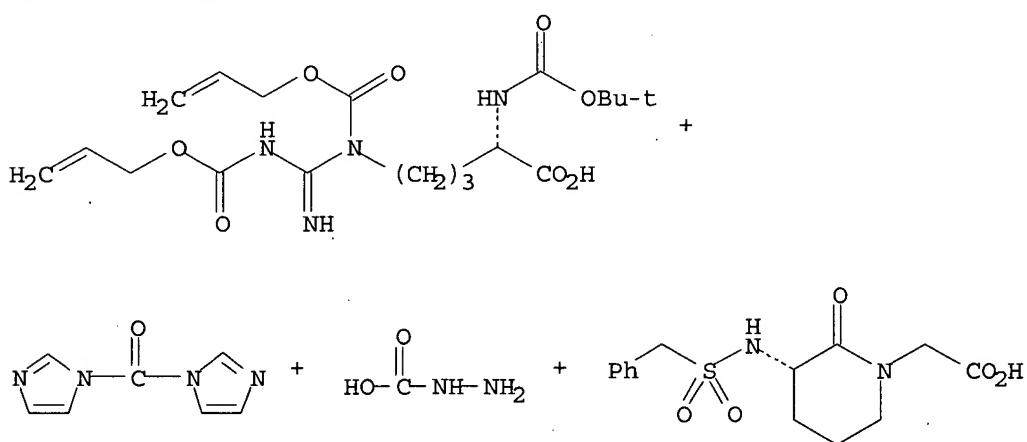


## RX(210) OF 249 - 8 STEPS

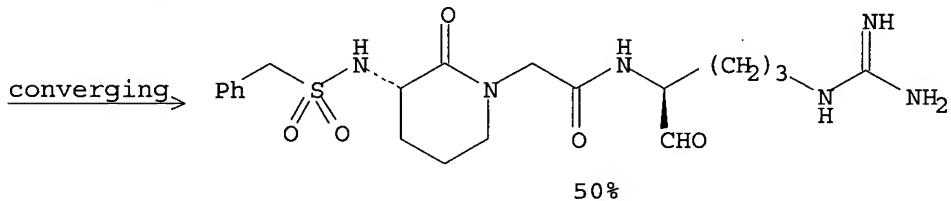


NOTE: RESIN SUPPORTED REACTION, STEREOSELECTIVE

## RX(212) OF 249 - 8 STEPS

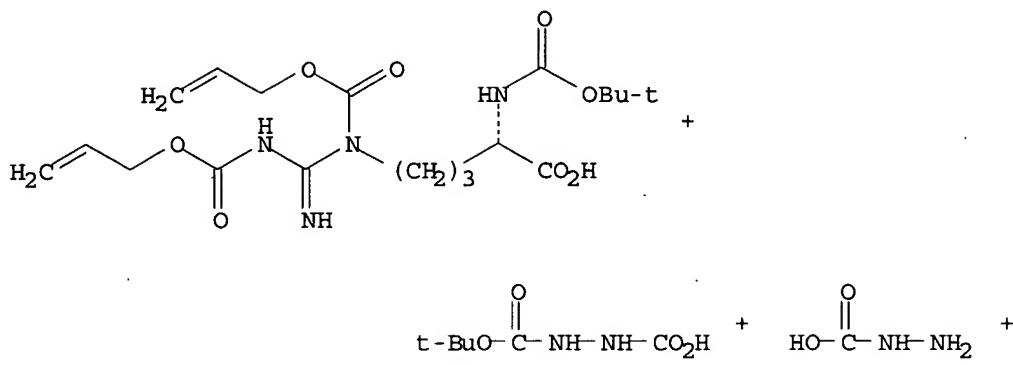


## RX(212) OF 249 - 8 STEPS

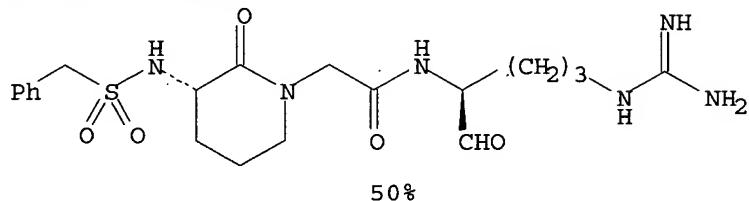


NOTE: STEREOSELECTIVE, STEREOSELECTIVE, RESIN SUPPORTED REACTION, RESIN SUPPORTED REACTION

RX(214) OF 249 - 8 STEPS

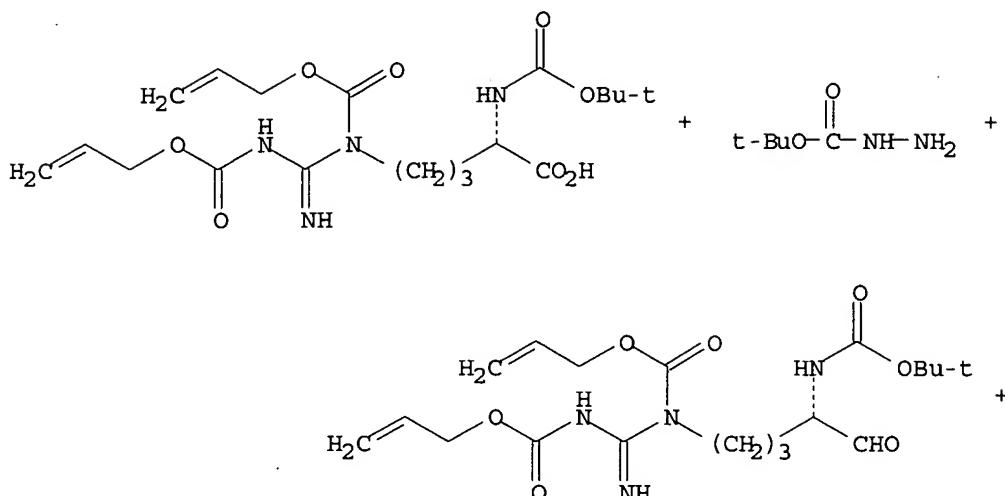


RX(214) OF 249 - 8 STEPS

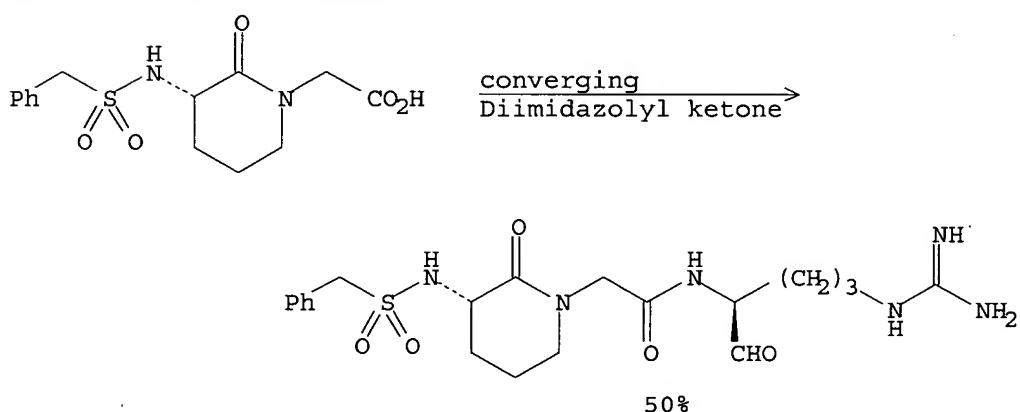


NOTE: STEREOSELECTIVE, STEREOSELECTIVE, RESIN SUPPORTED REACTION, RESIN SUPPORTED REACTION

RX (224) OF 249 - 9 STEPS



RX (224) OF 249 - 9 STEPS



NOTE: RESIN SUPPORTED REACTION, STEREOSELECTIVE, STEREOSELECTIVE

L13 ANSWER 4 OF 12 CASREACT COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 132:12488 CASREACT

TITLE: Synthesis of isotopically labelled L-phenylalanine and L-tyrosine

AUTHOR(S): Raap, Jan; Nieuwenhuis, Saskia; Creemers, Alain; Hexspoor, Sander; Kragl, Udo; Lugtenburg, Johan

CORPORATE SOURCE: Institute Chemistry, Leiden Univ., Leiden, 2300 RA, Neth.

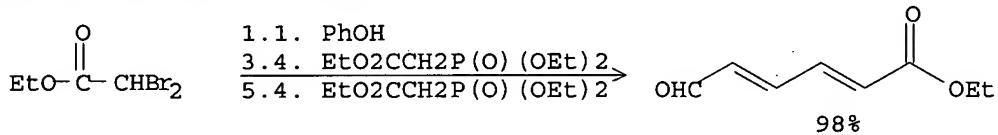
SOURCE: European Journal of Organic Chemistry (1999), (10), 2609-2621

CODEN: EJOCFK; ISSN: 1434-193X  
PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal  
 LANGUAGE: English

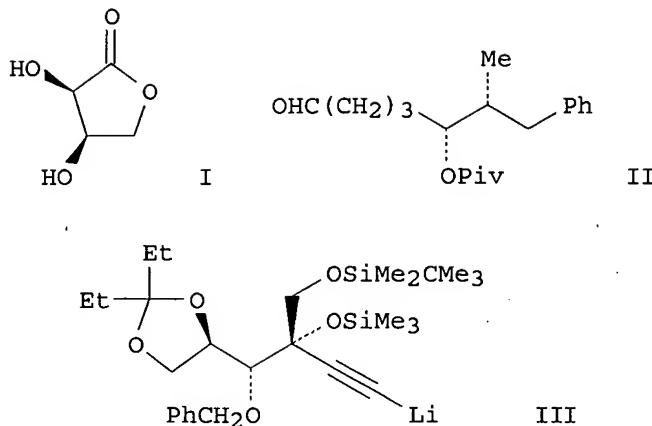
AB A synthetic route to stable-isotope-substituted L-phenylalanine is presented, which allows the introduction of <sup>13</sup>C, <sup>15</sup>N, and D labels at any position or combination of positions. For labeling of the aromatic ring, a synthetic route to PhCO<sub>2</sub>Et or PhCN was developed, based on the electrocyclic ring-closure of a 1,6-disubstituted hexatriene, with in-situ aromatization by elimination of 1 NH<sub>2</sub> substituent. Several important, highly isotopically enriched synthons were prepared, namely PhCN, PhCHO, PhCO<sub>2</sub>Et, and (PhO)<sub>2</sub>CHCO<sub>2</sub>Et. Labeled L-phenylalanines were synthesized from both aromatic precursors by initial conversion into PhCH<sub>2</sub>COCO<sub>2</sub>Na and subsequent transformation into the L- $\alpha$ -amino acid by an enzymic reductive amination. In this manner, highly enriched phenylalanines are obtained on the 10-g scale and with  $\geq 99\%$  ee. The method was validated by the synthesis of [<sup>1</sup>-<sup>13</sup>C]-L-Phe and [2-D]-L-Phe. Addnl., 2 methods are described for the introduction of isotopes into L-tyrosine starting from isotopically enriched PhCN and PhCO<sub>2</sub>Et.

RX(112) OF 162 - 6 STEPS



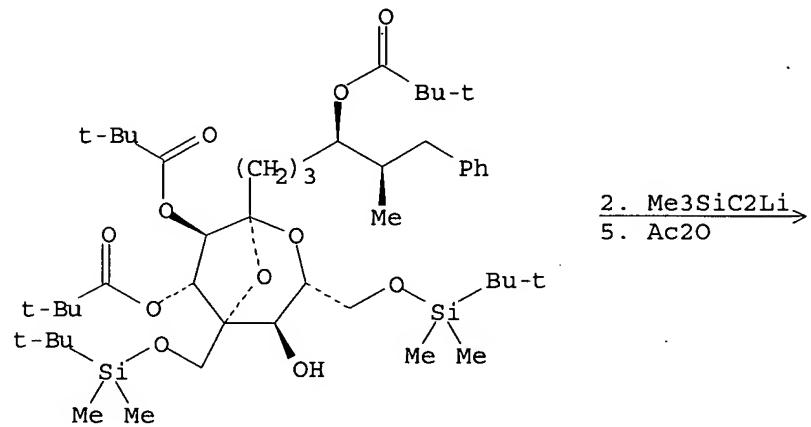
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 5 OF 12 CASREACT COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 123:56456 CASREACT  
 TITLE: Synthesis of (+)-Zaragozic Acid C  
 AUTHOR(S): Carreira, Erick M.; Du Bois, J.  
 CORPORATE SOURCE: Arnold and Mabel Beckman Laboratory for Chemical Synthesis, California Institute of Technology, Pasadena, CA, 91125, USA  
 SOURCE: Journal of the American Chemical Society (1994), 116(23), 10825-6  
 CODEN: JACSAT; ISSN: 0002-7863  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI

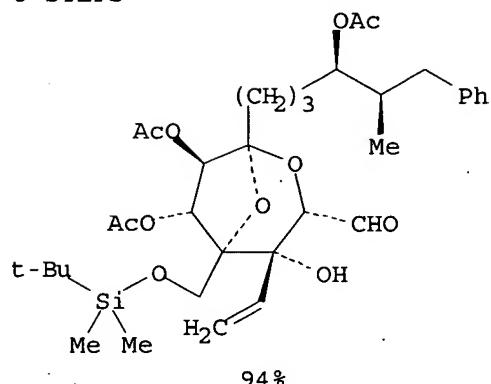


AB The asym. synthesis of the potent squalene synthetase inhibitor zaragozic acid C is described. The synthesis permits the preparation of multigram quantities of the dioxabicyclooctane core from the commercially available D-erythronic  $\gamma$ -lactone I. Coupling of the fully functionalized heptanal side chain II with lithium acetylide fragment III imparts convergency and flexibility to the synthesis.

RX (192) OF 473 - 8 STEPS

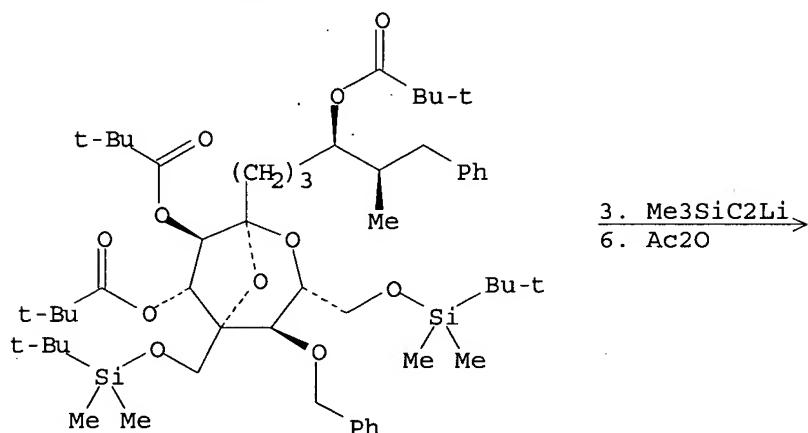


## RX(192) OF 473 - 8 STEPS

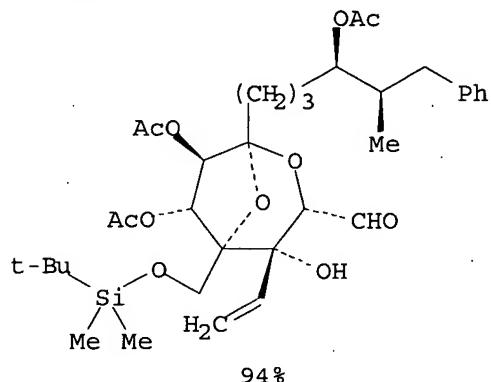


NOTE: 1) Swern oxidn., in-situ generated reagent, 2) stereoselective,  
6) regioselective, 7) chemoselective

## RX(313) OF 473 - 9 STEPS

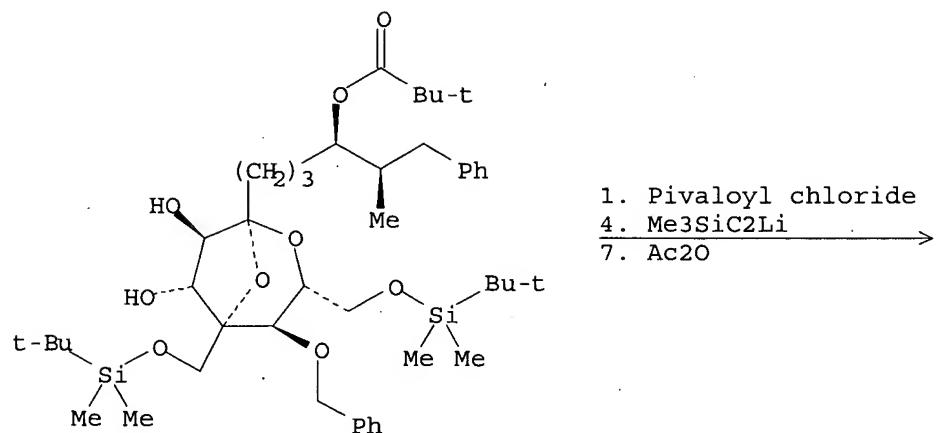


## RX(313) OF 473 - 9 STEPS

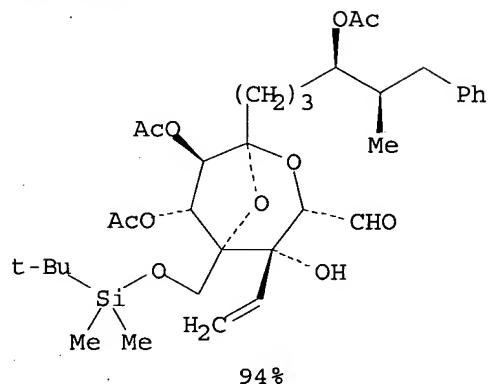


NOTE: 2) Swern oxidn., in-situ generated reagent, 3) stereoselective,  
7) regioselective, 8) chemoselective

RX(314) OF 473 - 10 STEPS

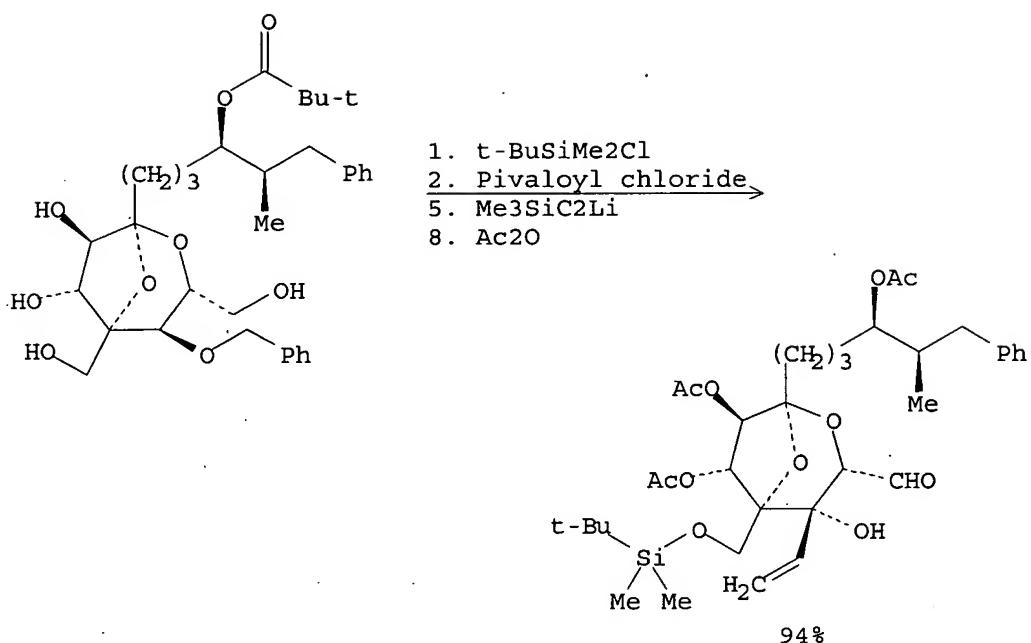


RX(314) OF 473 - 10 STEPS



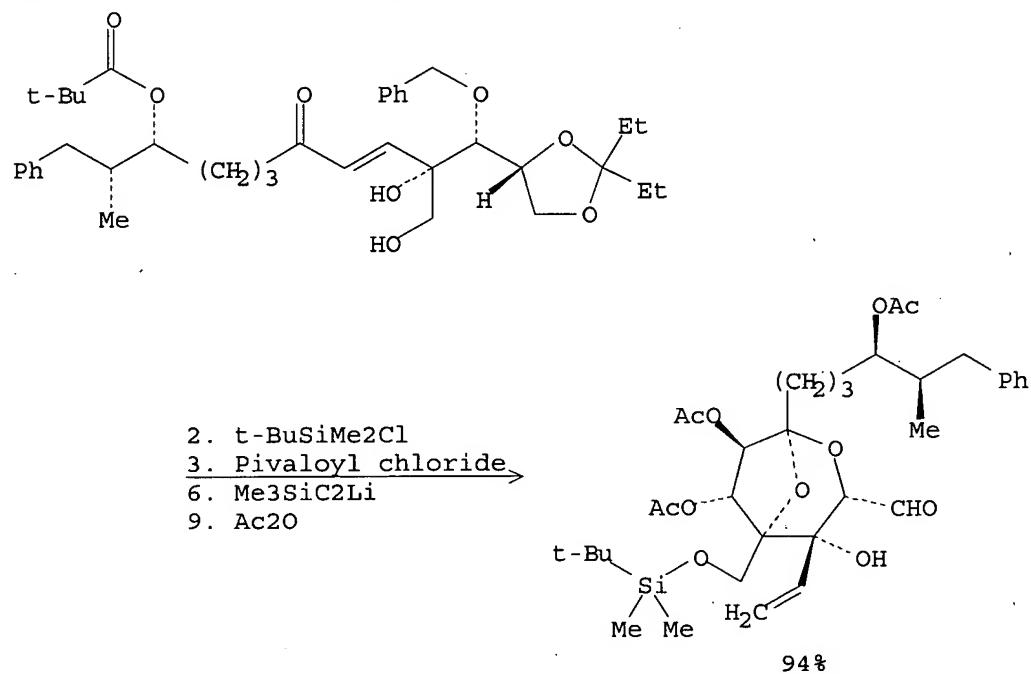
NOTE: 3) Swern oxidn., in-situ generated reagent, 4) stereoselective,  
8) regioselective, 9) chemoselective

## RX (315) OF 473 - 11 STEPS



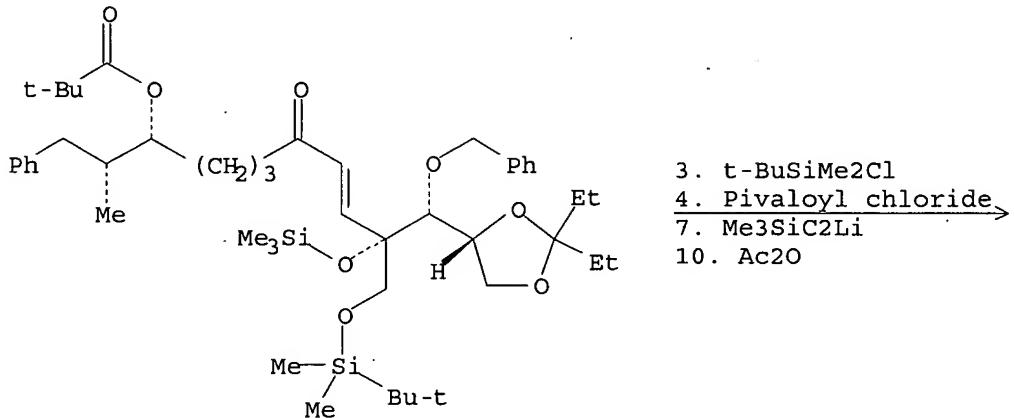
NOTE: 1) regioselective, 4) Swern oxidn., in-situ generated reagent,  
 5) stereoselective, 9) regioselective, 10) chemoselective

## RX (316) OF 473 - 12 STEPS

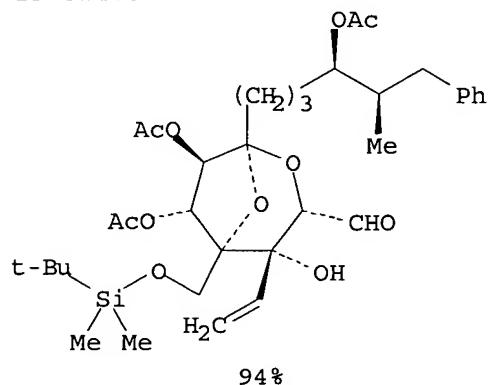


NOTE: 1) stereoselective, 2) regioselective, 5) Swern oxidn., in-situ generated reagent, 6) stereoselective, 10) regioselective, 11) chemoselective

RX(317) OF 473 - 13 STEPS

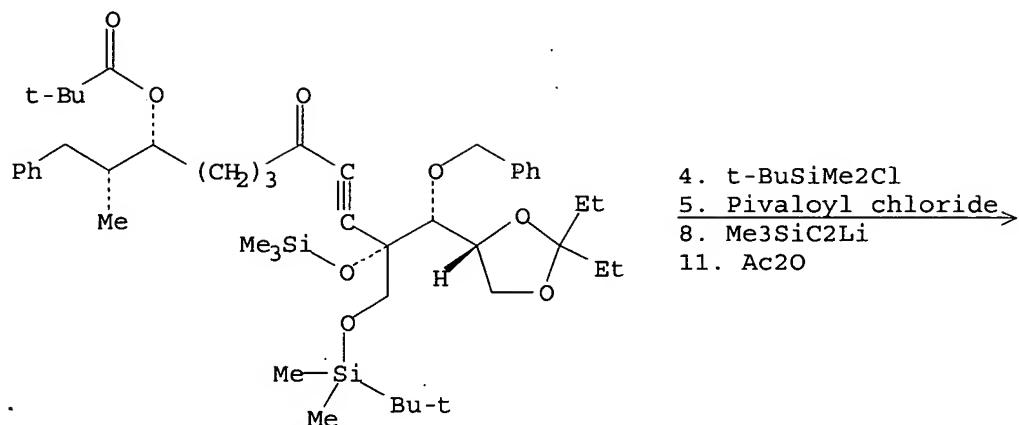


RX(317) OF 473 - 13 STEPS

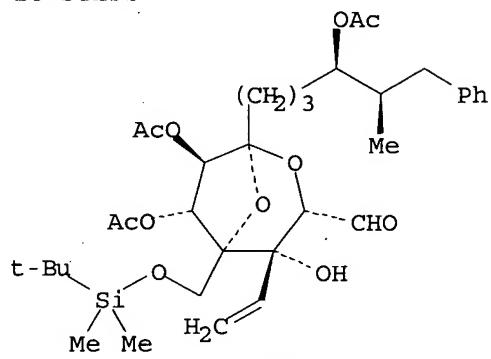


NOTE: 2) stereoselective, 3) regioselective, 6) Swern oxidn., in-situ generated reagent, 7) stereoselective, 11) regioselective, 12) chemoselective

## RX (318) OF 473 - 14 STEPS

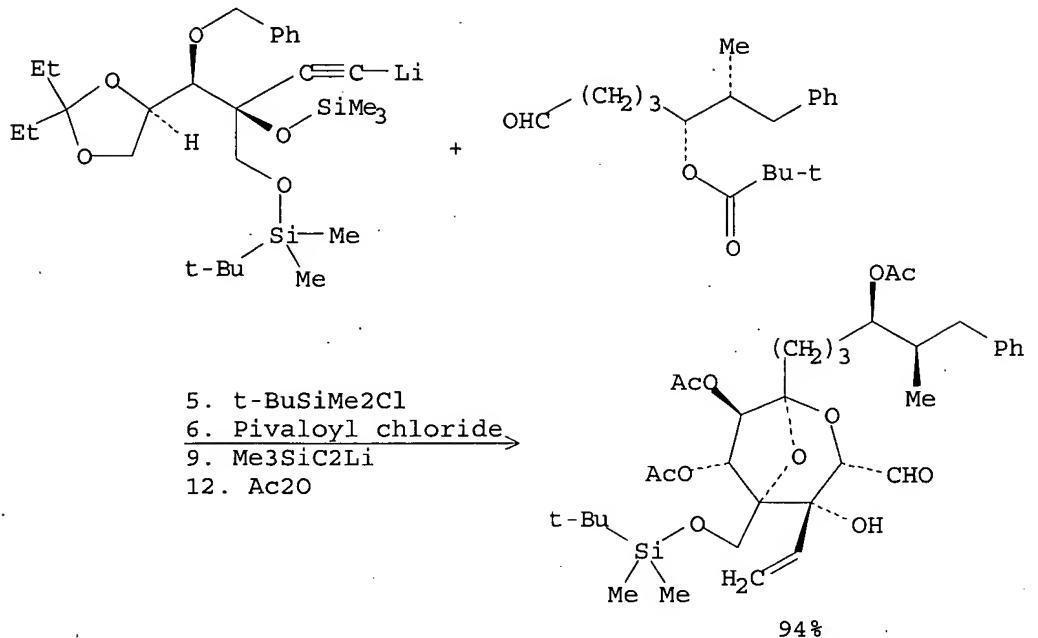


## RX (318) OF 473 - 14 STEPS



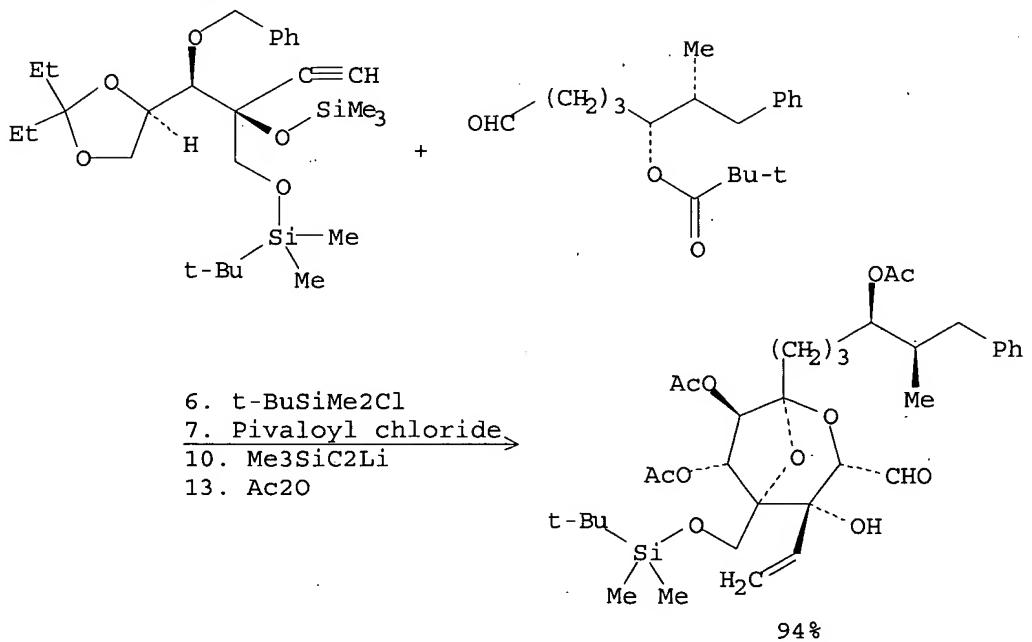
NOTE: 1) stereoselective, chemoselective, 3) stereoselective, 4) regioselective, 7) Swern oxidn., in-situ generated reagent, 8) stereoselective, 12) regioselective, 13) chemoselective

## RX(319) OF 473 - 15 STEPS



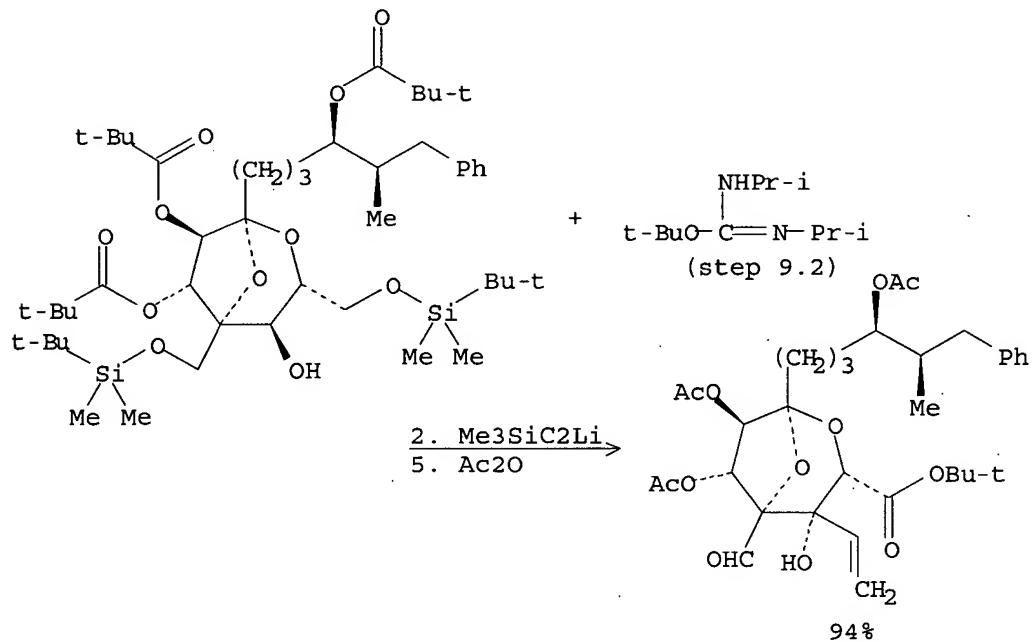
NOTE: 2) stereoselective, chemoselective, 4) stereoselective, 5) regioselective, 8) Swern oxidn., in-situ generated reagent, 9) stereoselective, 13) regioselective, 14) chemoselective

## RX(320) OF 473 - 16 STEPS



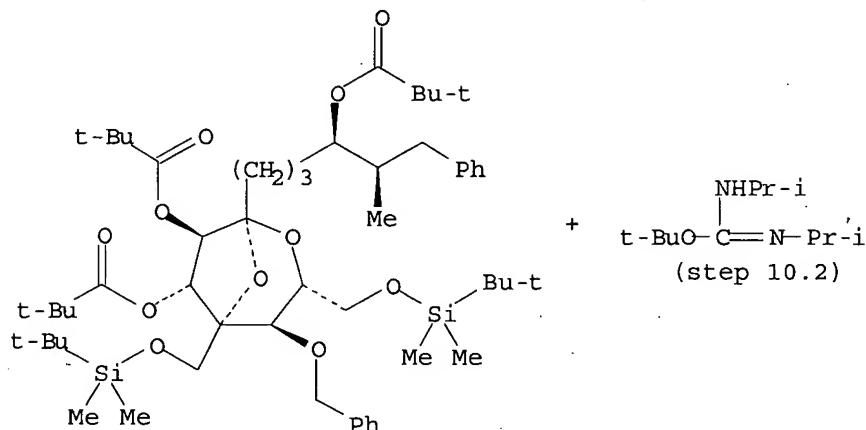
NOTE: 3) stereoselective, chemoselective, 5) stereoselective, 6) regioselective, 9) Swern oxidn., in-situ generated reagent, 10) stereoselective, 14) regioselective, 15) chemoselective

RX (339) OF 473 - 11 STEPS

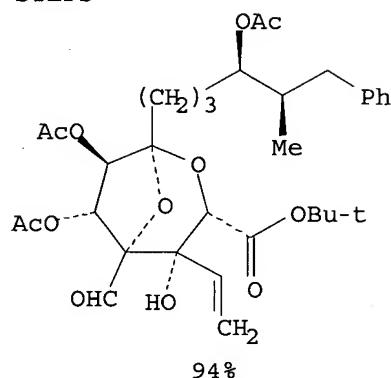


NOTE: 1) Swern oxidn., in-situ generated reagent, 2) stereoselective, 6) regioselective, 7) chemoselective, 9) buffered soln.

RX (340) OF 473 - 12 STEPS

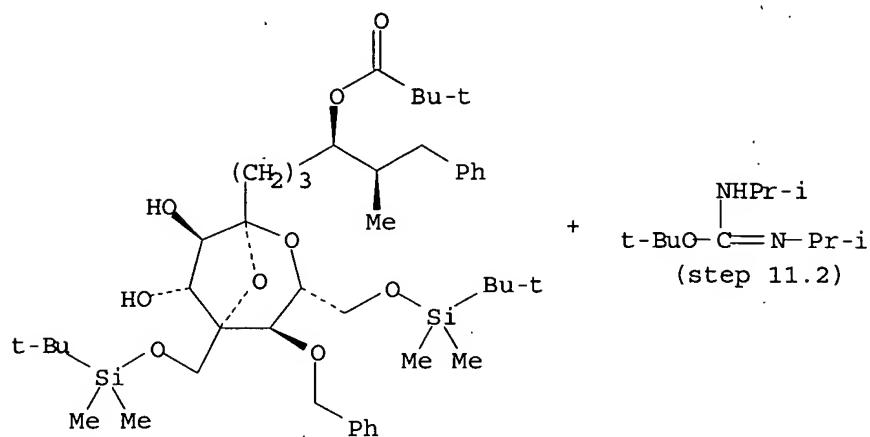


RX (340) OF 473 - 12 STEPS



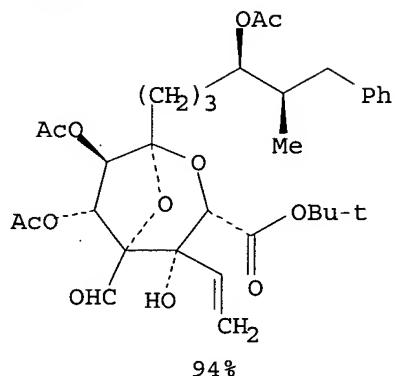
NOTE: 2) Swern oxidn., in-situ generated reagent, 3) stereoselective,  
 7) regioselective, 8) chemoselective, 10) buffered soln.

RX(341) OF 473 - 13 STEPS



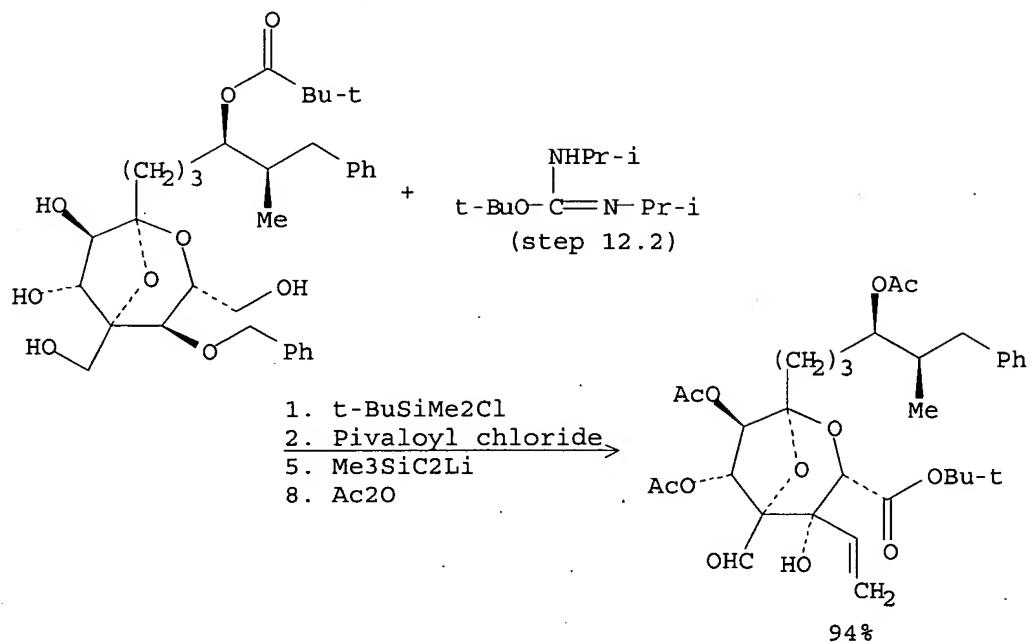
1. Pivaloyl chloride  
 4. Me<sub>3</sub>SiC<sub>2</sub>Li  
 7. Ac<sub>2</sub>O

RX(341) OF 473 - 13 STEPS



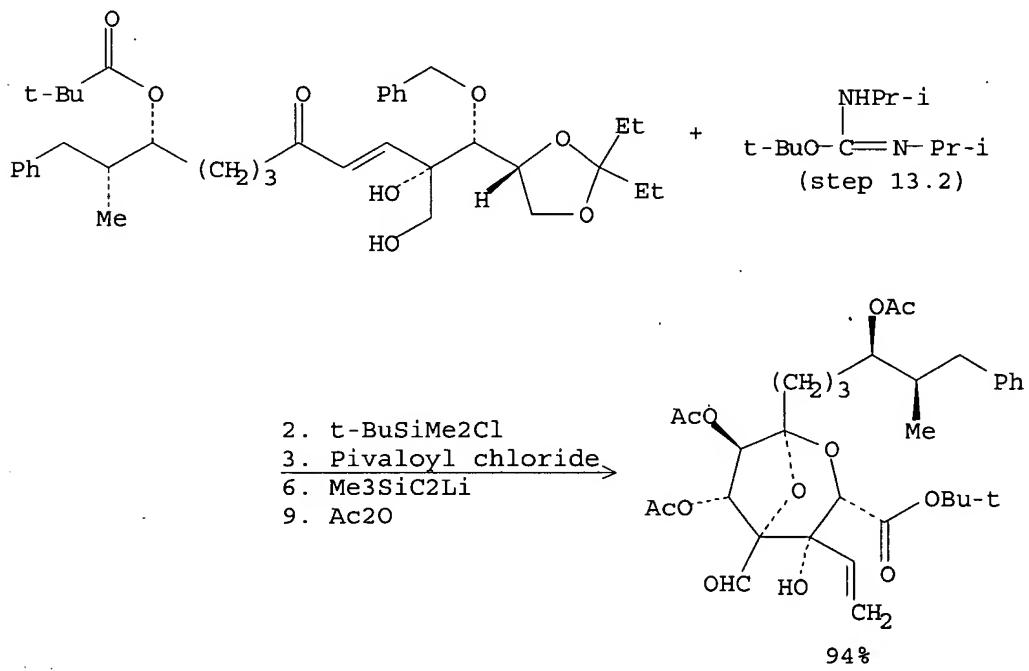
NOTE: 3) Swern oxidn., in-situ generated reagent, 4) stereoselective,  
 8) regioselective, 9) chemoselective, 11) buffered soln.

## RX (342) OF 473 - 14 STEPS



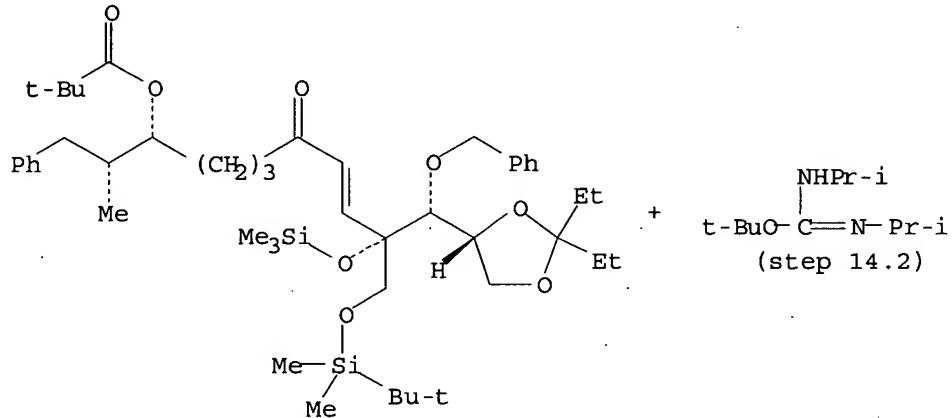
NOTE: 1) regioselective, 4) Swern oxidn., in-situ generated reagent,  
 5) stereoselective, 9) regioselective, 10) chemoselective, 12)  
 buffered soln.

## RX (343) OF 473 - 15 STEPS



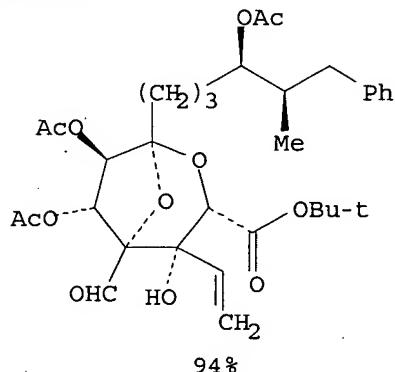
NOTE: 1) stereoselective, 2) regioselective, 5) Swern oxidn., in-situ generated reagent, 6) stereoselective, 10) regioselective, 11) chemoselective, 13) buffered soln.

## RX(344) OF 473 - 16 STEPS



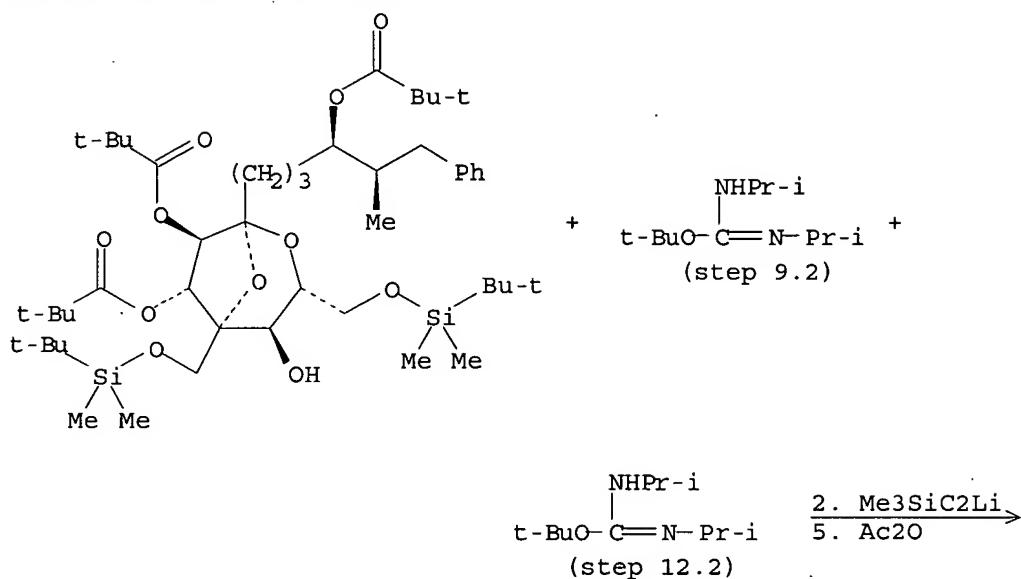
3. t-BuSiMe<sub>2</sub>Cl  
 4. Pivaloyl chloride  
 7. Me<sub>3</sub>SiC<sub>2</sub>Li  
 10. Ac<sub>2</sub>O

## RX(344) OF 473 - 16 STEPS

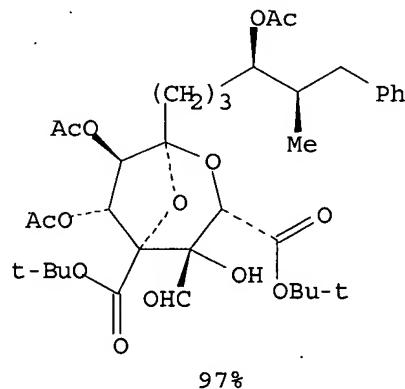


NOTE: 2) stereoselective, 3) regioselective, 6) Swern oxidn., in-situ generated reagent, 7) stereoselective, 11) regioselective, 12) chemoselective, 14) buffered soln.

## RX (357) OF 473 - 13 STEPS

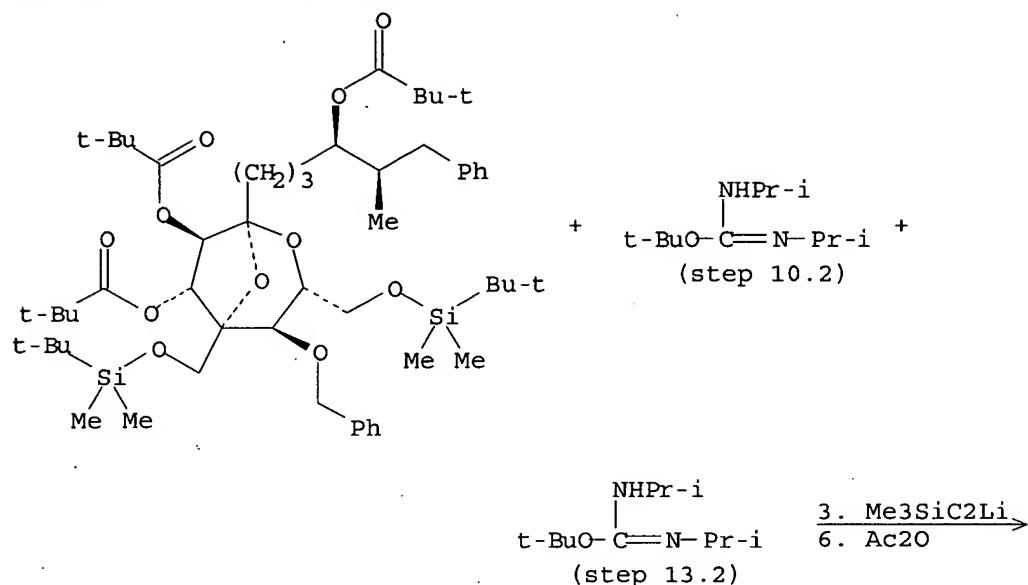


## RX (357) OF 473 - 13 STEPS

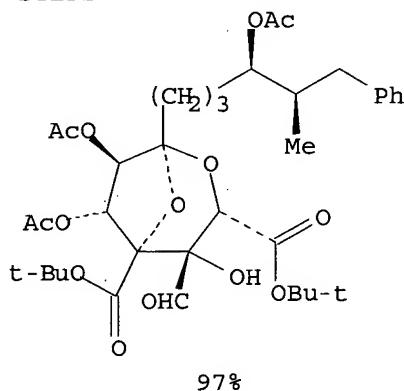


NOTE: 1) Swern oxidn., in-situ generated reagent, 2) stereoselective,  
 6) regioselective, 7) chemoselective, 9) buffered soln., 12)  
 buffered soln.

RX(358) OF 473 - 14 STEPS

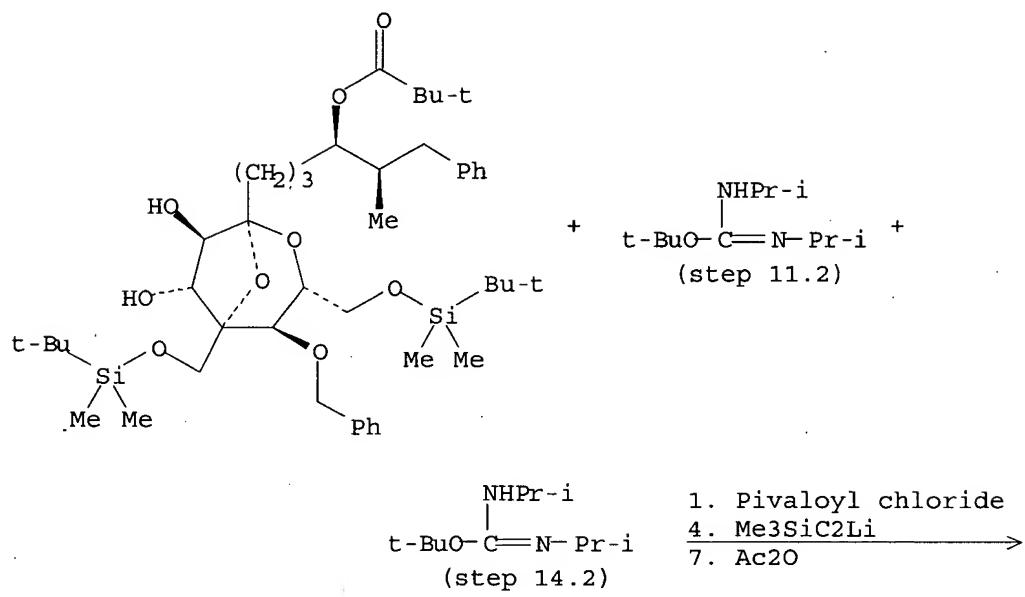


RX(358) OF 473 - 14 STEPS

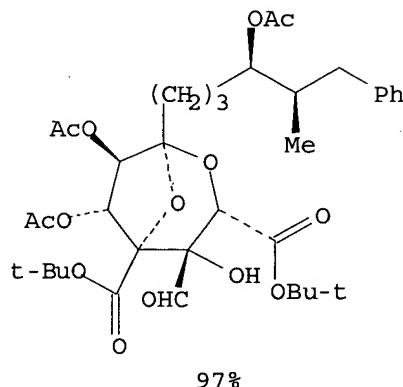


NOTE: 2) Swern oxidn., in-situ generated reagent, 3) stereoselective,  
 7) regioselective, 8) chemoselective, 10) buffered soln., 13)  
 buffered soln.

## RX(359) OF 473 - 15 STEPS

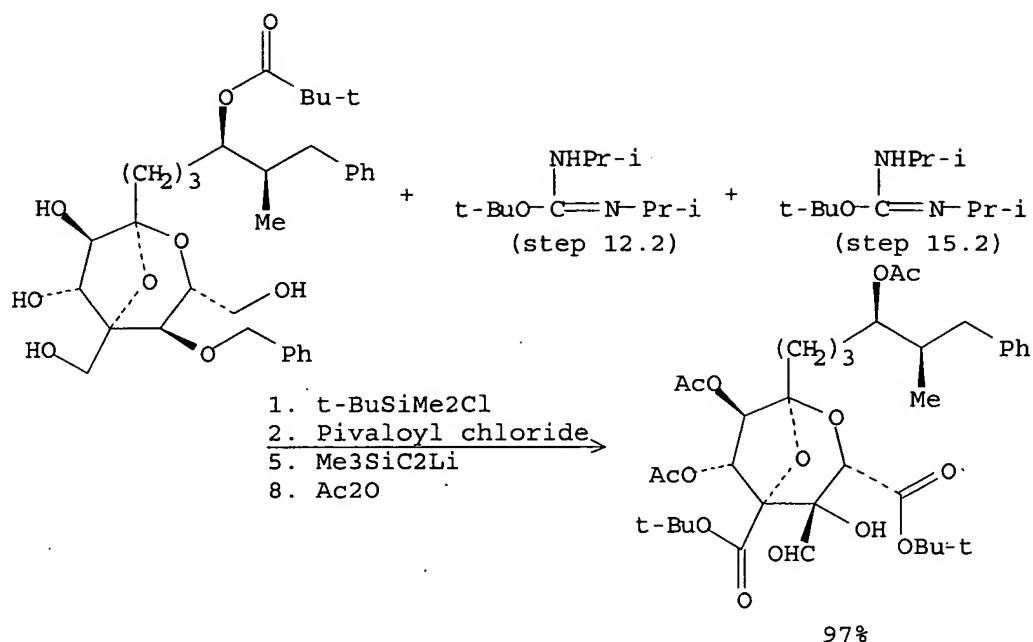


## RX(359) OF 473 - 15 STEPS



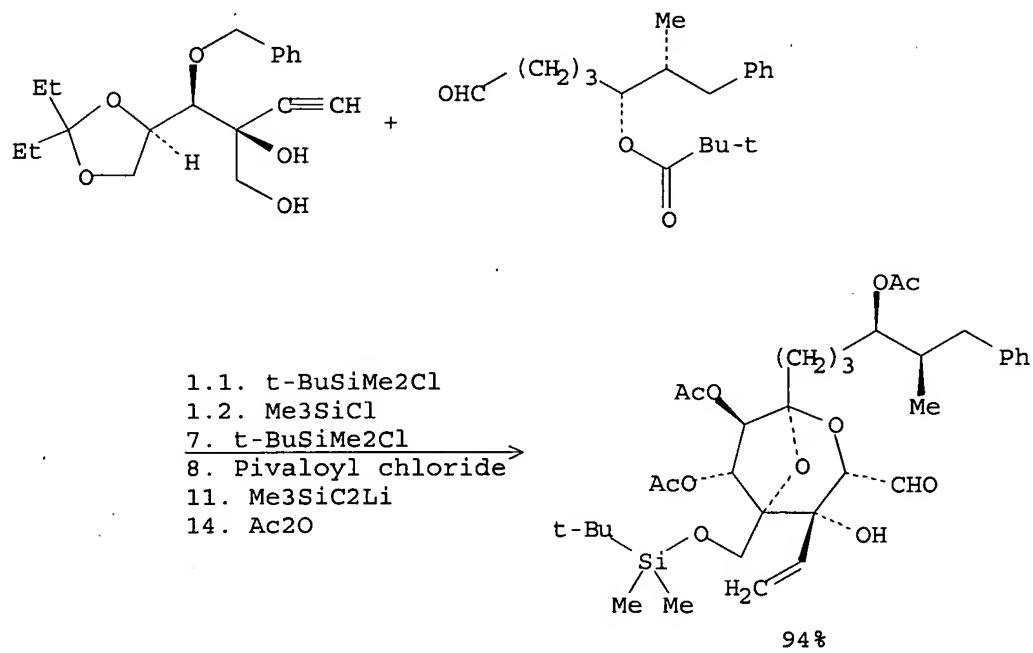
NOTE: 3) Swern oxidn., in-situ generated reagent, 4) stereoselective,  
 8) regioselective, 9) chemoselective, 11) buffered soln., 14)  
 buffered soln.

## RX(360) OF 473 - 16 STEPS



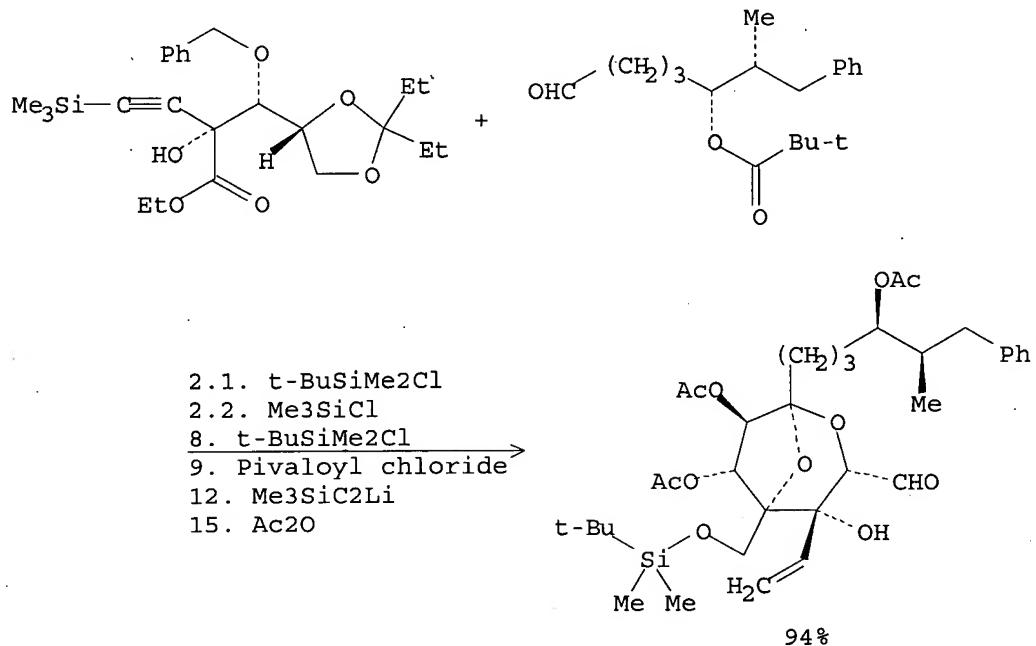
NOTE: 1) regioselective, 4) Swern oxidn., in-situ generated reagent,  
 5) stereoselective, 9) regioselective, 10) chemoselective, 12)  
 buffered soln., 15) buffered soln.

## RX(414) OF 473 - 17 STEPS



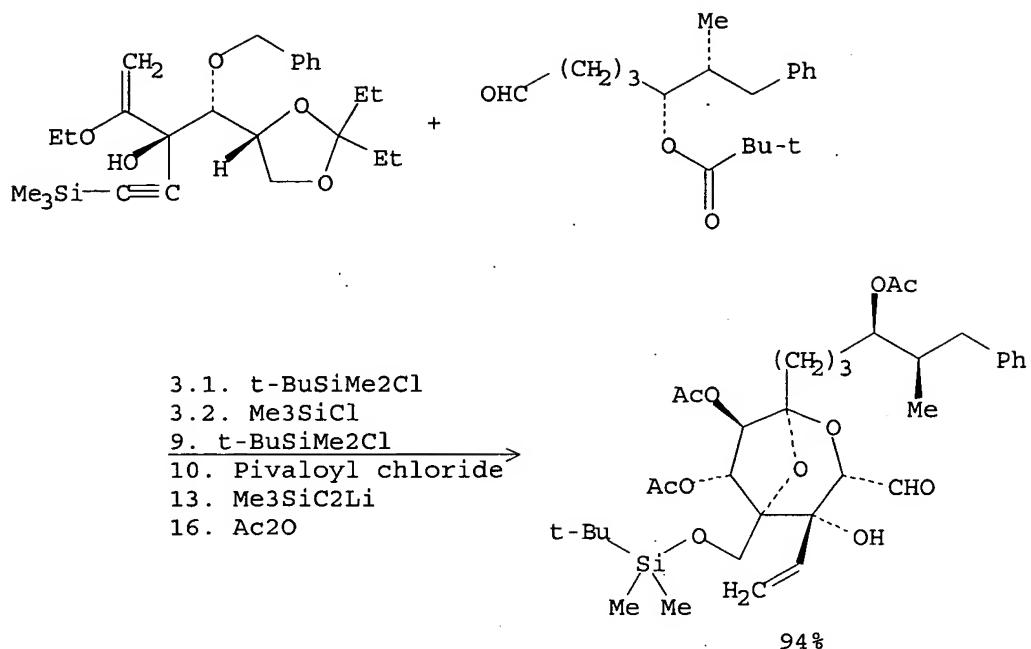
NOTE: 1) regioselective, scalable, 4) stereoselective, chemoselective,  
 6) stereoselective, 7) regioselective, 10) Swern oxidn., in-situ  
 generated reagent, 11) stereoselective, 15) regioselective, 16)  
 chemoselective

RX(415) OF 473 - 18 STEPS



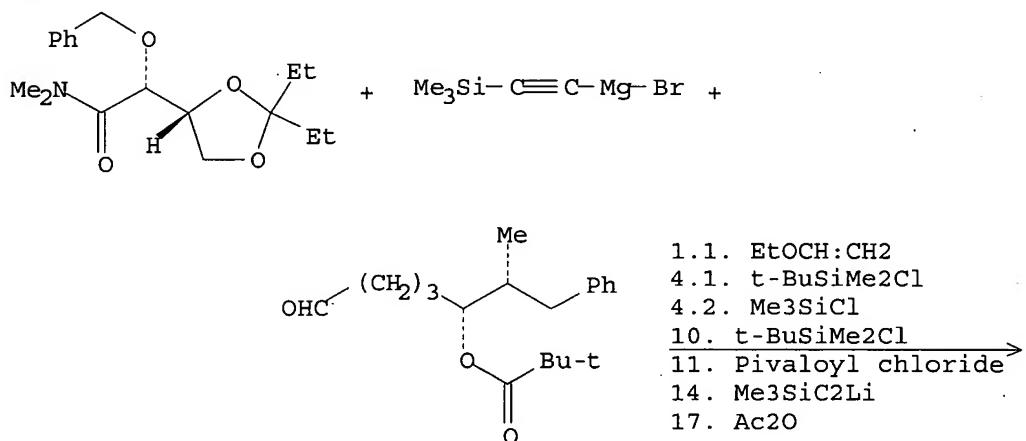
NOTE: 1) chemoselective (stage 1), 2) regioselective, scalable, 5)  
 stereoselective, chemoselective, 7) stereoselective, 8)  
 regioselective, 11) Swern oxidn., in-situ generated reagent, 12)  
 stereoselective, 16) regioselective, 17) chemoselective

## RX (416) OF 473 - 19 STEPS

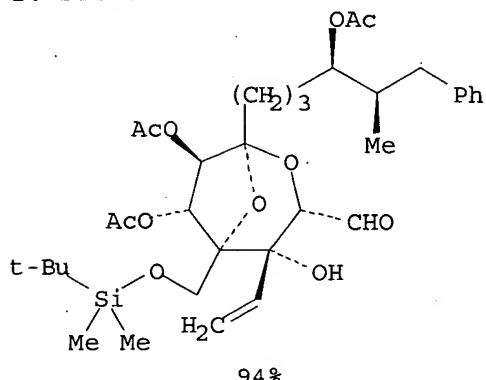


NOTE: 2) chemoselective (stage 1), 3) regioselective, scalable, 6) stereoselective, chemoselective, 8) stereoselective, 9) regioselective, 12) Swern oxidn., in-situ generated reagent, 13) stereoselective, 17) regioselective, 18) chemoselective

## RX (417) OF 473 - 20 STEPS

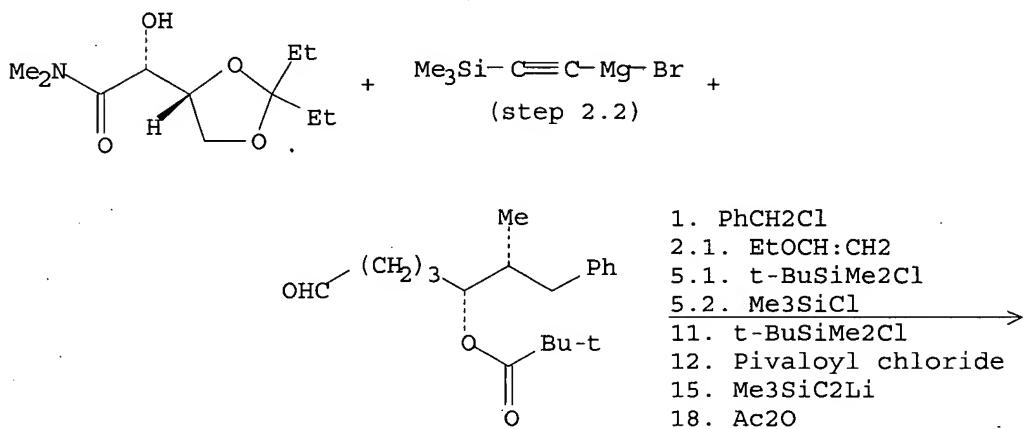


## RX(417) OF 473 - 20 STEPS

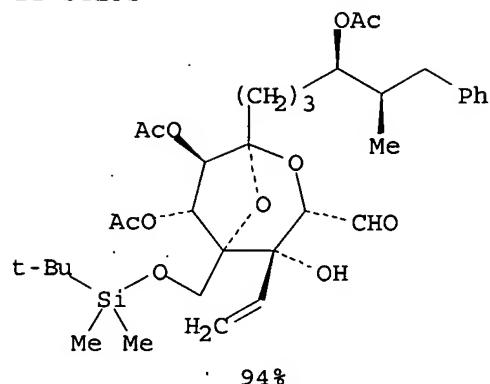


NOTE: 1) stereoselective, 3) chemoselective (stage 1), 4) regioselective, scalable, 7) stereoselective, chemoselective, 9) stereoselective, 10) regioselective, 13) Swern oxidn., in-situ generated reagent, 14) stereoselective, 18) regioselective, 19) chemoselective

## RX(418) OF 473 - 21 STEPS

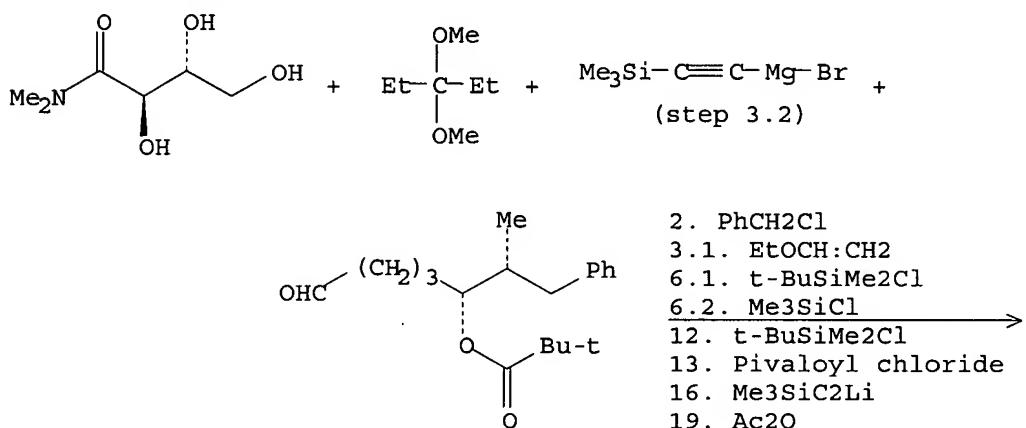


## RX(418) OF 473 - 21 STEPS

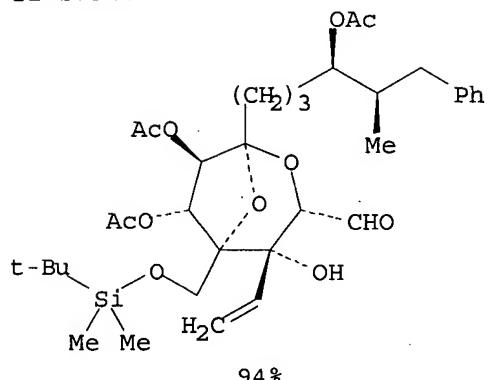


NOTE: 2) stereoselective, 4) chemoselective (stage 1), 5) regioselective, scalable, 8) stereoselective, chemoselective, 10) stereoselective, 11) regioselective, 14) Swern oxidn., in-situ generated reagent, 15) stereoselective, 19) regioselective, 20) chemoselective

## RX(419) OF 473 - 22 STEPS

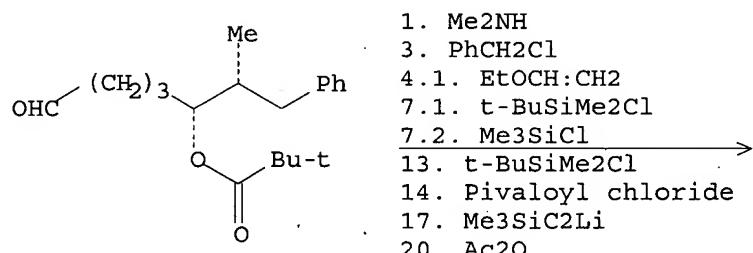
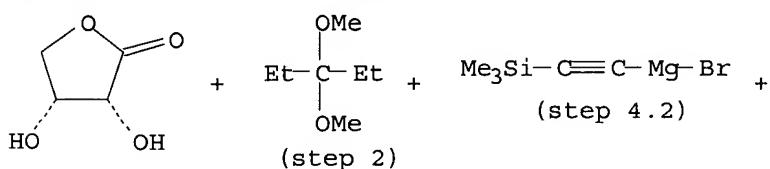


RX (419) OF 473 - 22 STEPS

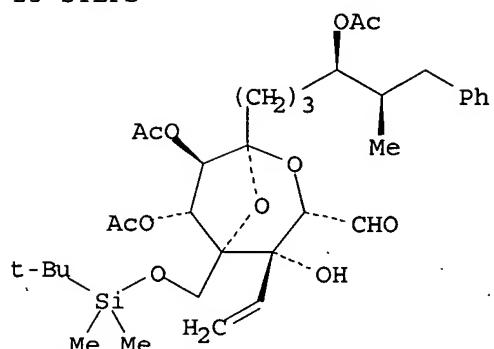


NOTE: 1) regioselective, acidic conditions, 3) stereoselective, 5) chemoselective (stage 1), 6) regioselective, scalable, 9) stereoselective, chemoselective, 11) stereoselective, 12) regioselective, 15) Swern oxidn., in-situ generated reagent, 16) stereoselective, 20) regioselective, 21) chemoselective

RX (420) OF 473 - 23 STEPS



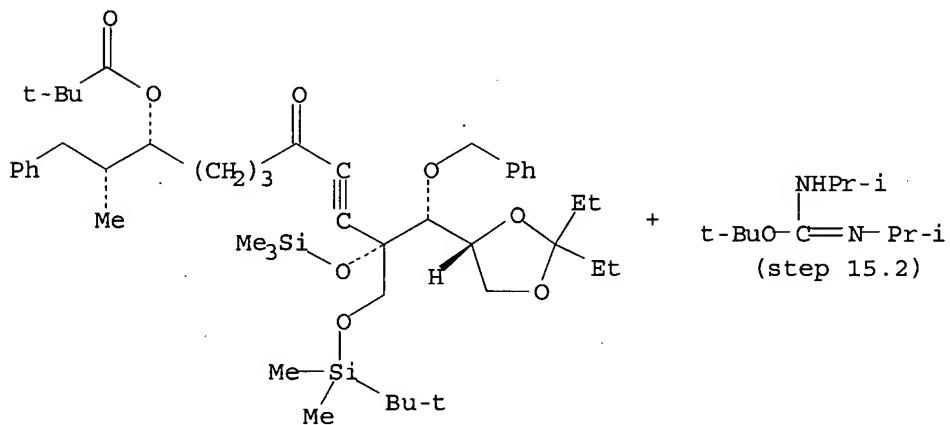
## RX(420) OF 473 - 23 STEPS



94%

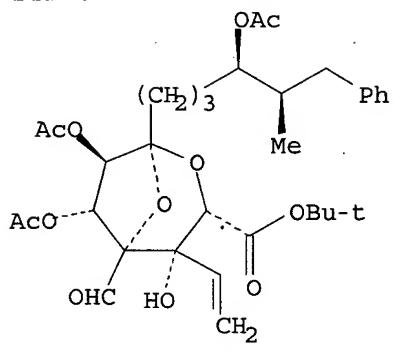
NOTE: 2) regioselective, acidic conditions, 4) stereoselective, 6) chemoselective (stage 1), 7) regioselective, scalable, 10) stereoselective, chemoselective, 12) stereoselective, 13) regioselective, 16) Swern oxidn., in-situ generated reagent, 17) stereoselective, 21) regioselective, 22) chemoselective

## RX(438) OF 473 - 17 STEPS



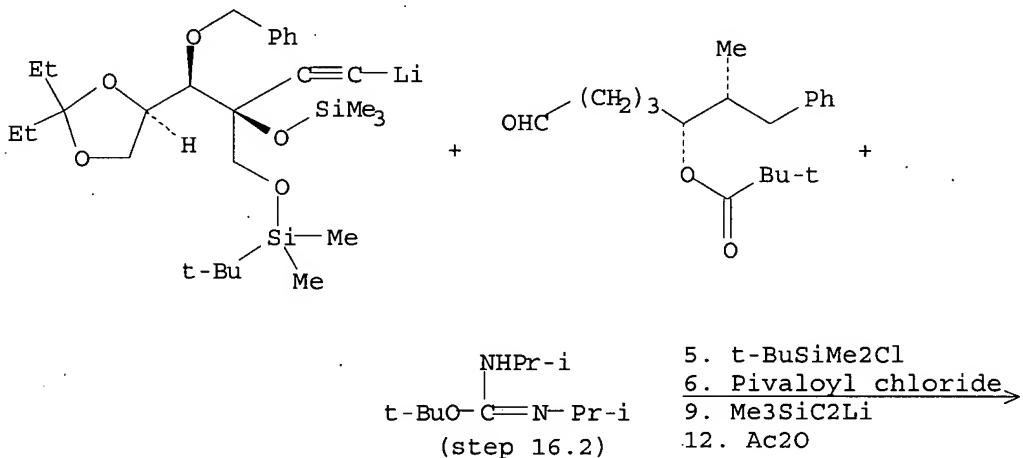
4. t-BuSiMe<sub>2</sub>Cl  
 5. Pivaloyl chloride  $\Rightarrow$   
 8. Me<sub>3</sub>SiC<sub>2</sub>Li  
 11. Ac<sub>2</sub>O

## RX(438) OF 473 - 17 STEPS

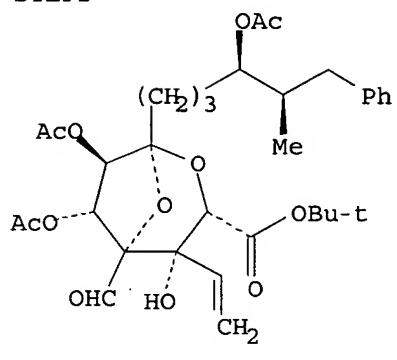


NOTE: 1) stereoselective, chemoselective, 3) stereoselective, 4) regioselective, 7) Swern oxidn., in-situ generated reagent, 8) stereoselective, 12) regioselective, 13) chemoselective, 15) buffered soln.

## RX(439) OF 473 - 18 STEPS

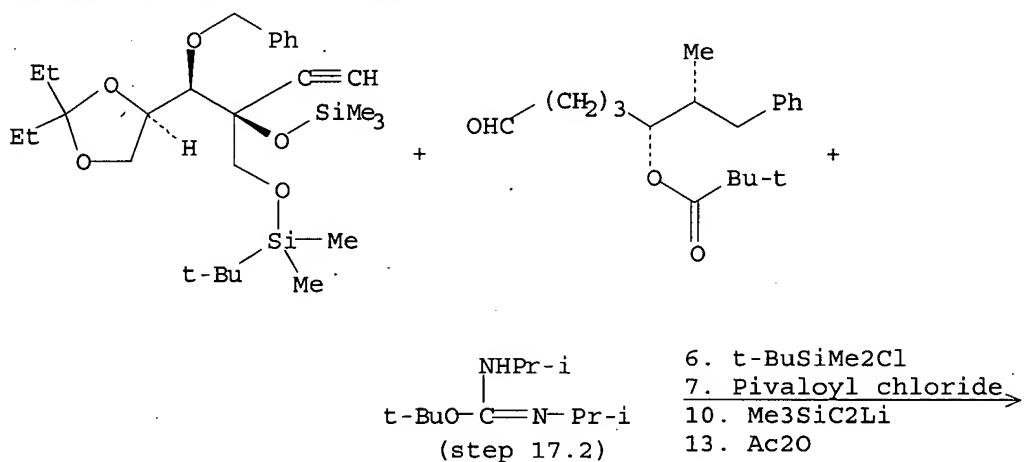


RX(439) OF 473 - 18 STEPS

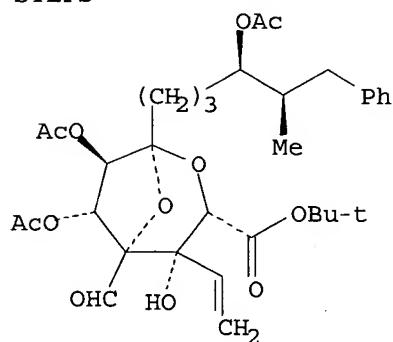


NOTE: 2) stereoselective, chemoselective, 4) stereoselective, 5) regioselective, 8) Swern oxidn., in-situ generated reagent, 9) stereoselective, 13) regioselective, 14) chemoselective, 16) buffered soln.

RX(440) OF 473 - 19 STEPS

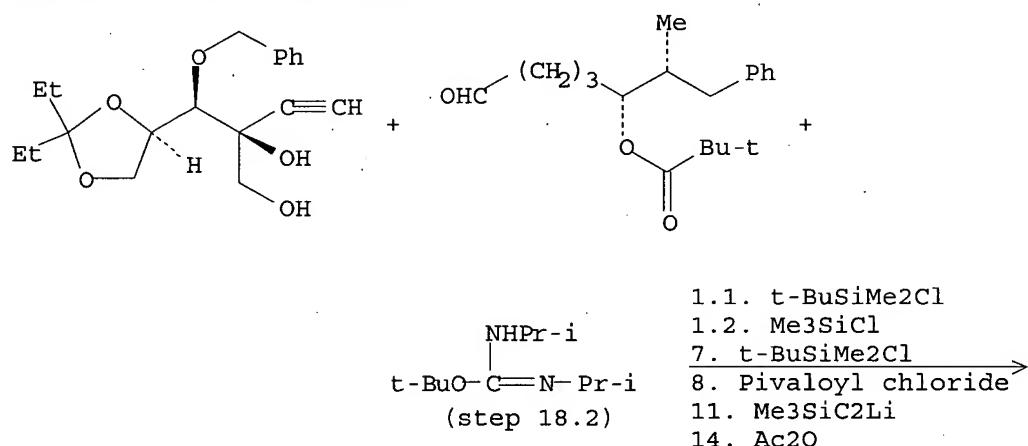


## RX(440) OF 473 - 19 STEPS

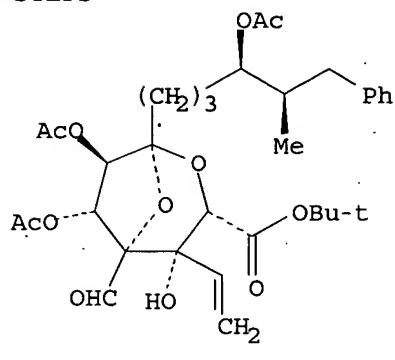


NOTE: 3) stereoselective, chemoselective, 5) stereoselective, 6)  
 regioselective, 9) Swern oxidn., in-situ generated reagent, 10)  
 stereoselective, 14) regioselective, 15) chemoselective, 17)  
 buffered soln.

## RX(441) OF 473 - 20 STEPS

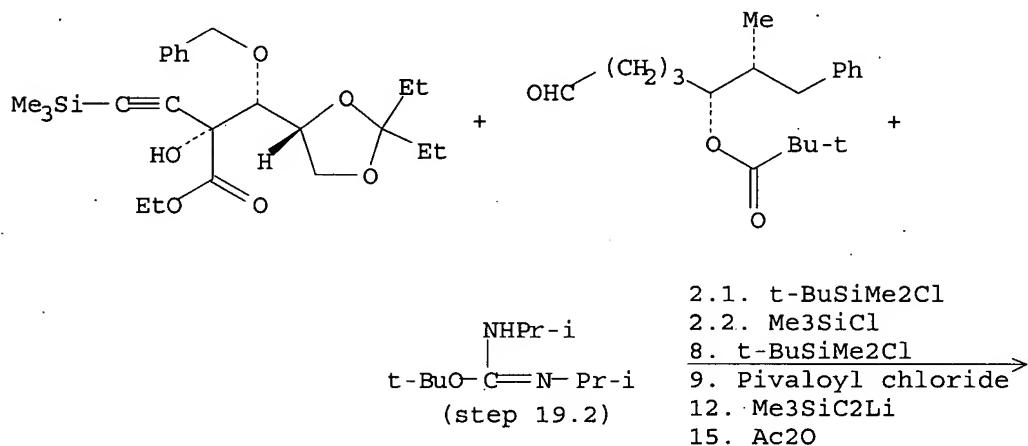


## RX(441) OF 473 - 20 STEPS

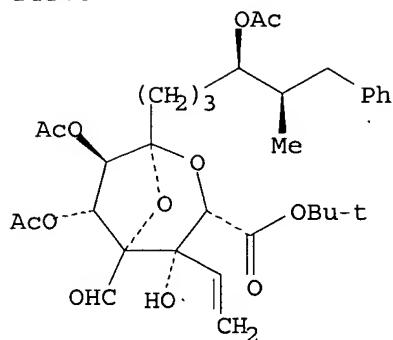


NOTE: 1) regioselective, scalable, 4) stereoselective, chemoselective,  
 6) stereoselective, 7) regioselective, 10) Swern oxidn., in-situ  
 generated reagent, 11) stereoselective, 15) regioselective, 16)  
 chemoselective, 18) buffered soln.

## RX(442) OF 473 - 21 STEPS

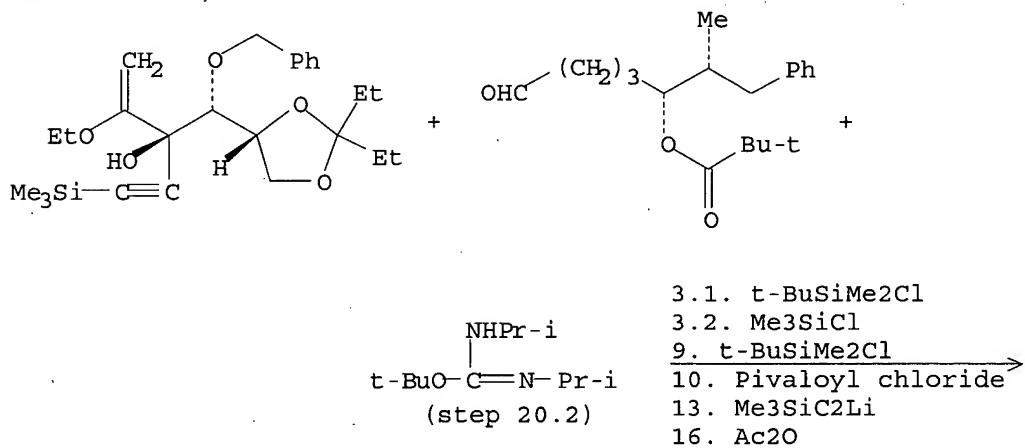


## RX(442) OF 473 - 21 STEPS

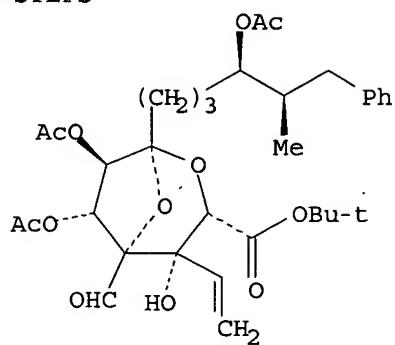


NOTE: 1) chemoselective (stage 1), 2) regioselective, scalable, 5) stereoselective, chemoselective, 7) stereoselective, 8) regioselective, 11) Swern oxidn., in-situ generated reagent, 12) stereoselective, 16) regioselective, 17) chemoselective, 19) buffered soln.

## RX(443) OF 473 - 22 STEPS



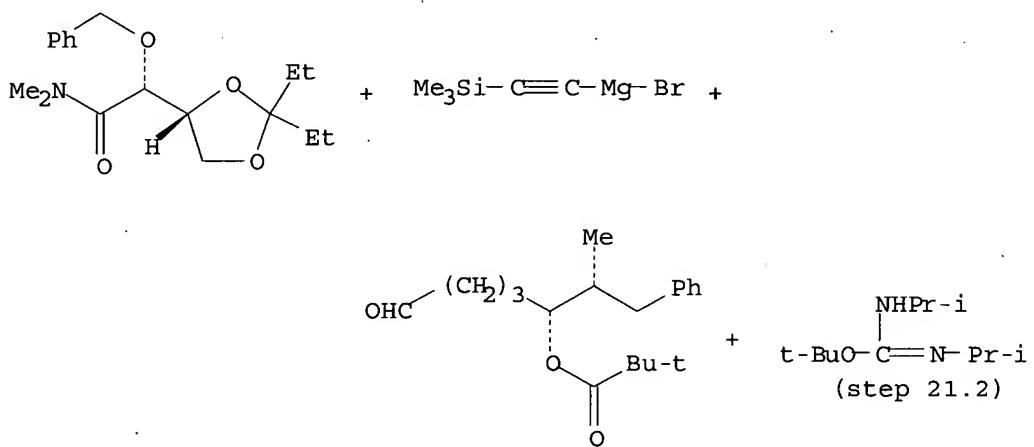
## RX(443) OF 473 - 22 STEPS



94%

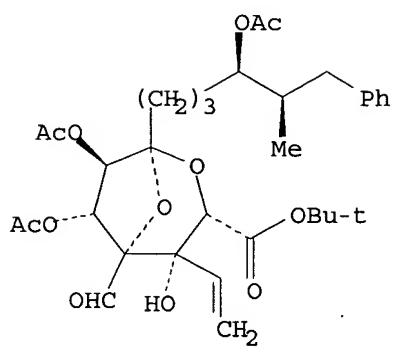
NOTE: 2) chemoselective (stage 1), 3) regioselective, scalable, 6) stereoselective, chemoselective, 8) stereoselective, 9) regioselective, 12) Swern oxidn., in-situ generated reagent, 13) stereoselective, 17) regioselective, 18) chemoselective, 20) buffered soln.

## RX(444) OF 473 - 23 STEPS



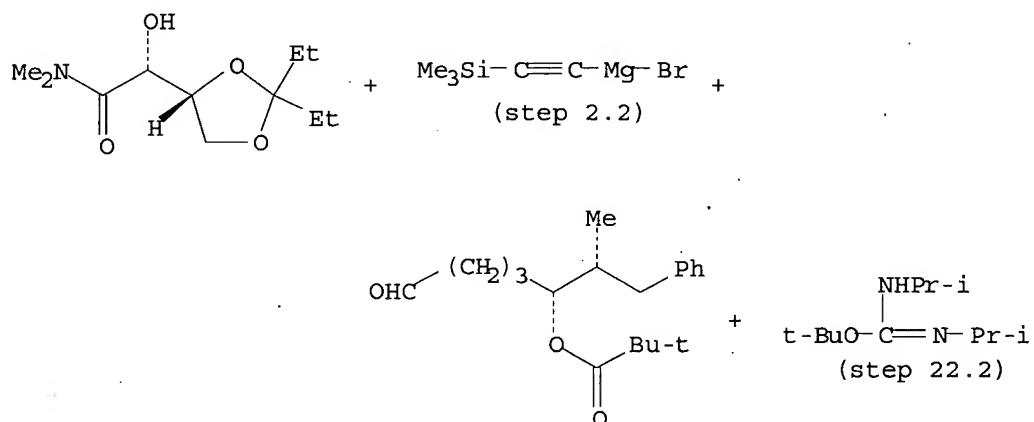
## RX(444) OF 473 - 23 STEPS

1.1. EtOCH:CH<sub>2</sub>  
 4.1. t-BuSiMe<sub>2</sub>Cl  
 4.2. Me<sub>3</sub>SiCl  
10. t-BuSiMe<sub>2</sub>Cl  
 11. Pivaloyl chloride  
 14. Me<sub>3</sub>SiC<sub>2</sub>Li  
 17. Ac<sub>2</sub>O



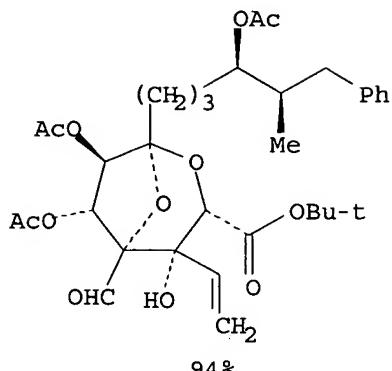
NOTE: 1) stereoselective, 3) chemoselective (stage 1), 4) regioselective, scalable, 7) stereoselective, chemoselective, 9) stereoselective, 10) regioselective, 13) Swern oxidn., in-situ generated reagent, 14) stereoselective, 18) regioselective, 19) chemoselective, 21) buffered soln.

## RX(445) OF 473 - 24 STEPS



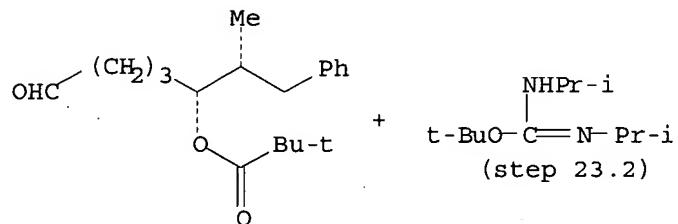
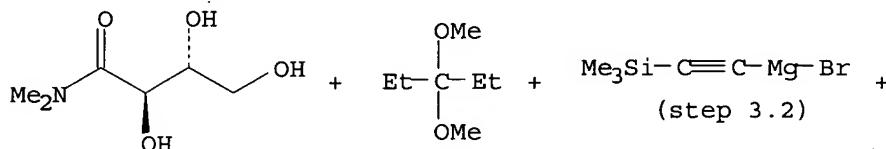
## RX(445) OF 473 - 24 STEPS

1. PhCH<sub>2</sub>Cl
2. 1. EtOCH:CH<sub>2</sub>
5. 1. t-BuSiMe<sub>2</sub>Cl
5. 2. Me<sub>3</sub>SiCl
11. t-BuSiMe<sub>2</sub>Cl
12. Pivaloyl chloride
15. Me<sub>3</sub>SiC<sub>2</sub>Li
18. Ac<sub>2</sub>O



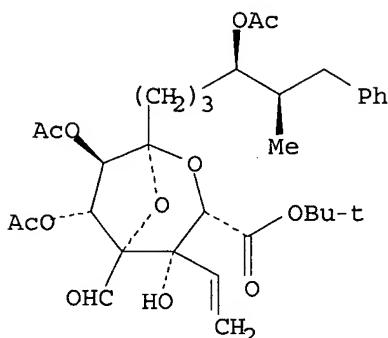
NOTE: 2) stereoselective, 4) chemoselective (stage 1), 5) regioselective, scalable, 8) stereoselective, chemoselective, 10) stereoselective, 11) regioselective, 14) Swern oxidn., in-situ generated reagent, 15) stereoselective, 19) regioselective, 20) chemoselective, 22) buffered soln.

## RX(446) OF 473 - 25 STEPS



## RX(446) OF 473 - 25 STEPS

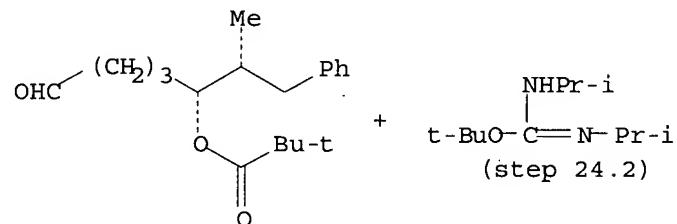
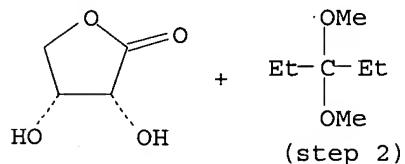
2. PhCH<sub>2</sub>Cl  
 3. 1. EtOCH:CH<sub>2</sub>  
 6. 1. t-BuSiMe<sub>2</sub>Cl  
 6. 2. Me<sub>3</sub>SiCl  
 12. t-BuSiMe<sub>2</sub>Cl  
 13. Pivaloyl chloride  
 16. Me<sub>3</sub>SiC<sub>2</sub>Li  
 19. Ac<sub>2</sub>O



94%

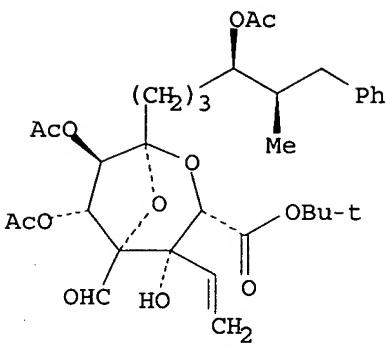
NOTE: 1) regioselective, acidic conditions, 3) stereoselective, 5)  
 chemoselective (stage 1), 6) regioselective, scalable, 9)  
 stereoselective, chemoselective, 11) stereoselective, 12)  
 regioselective, 15) Swern oxidn., in-situ generated reagent, 16)  
 stereoselective, 20) regioselective, 21) chemoselective, 23)  
 buffered soln.

## RX(447) OF 473 - 26 STEPS



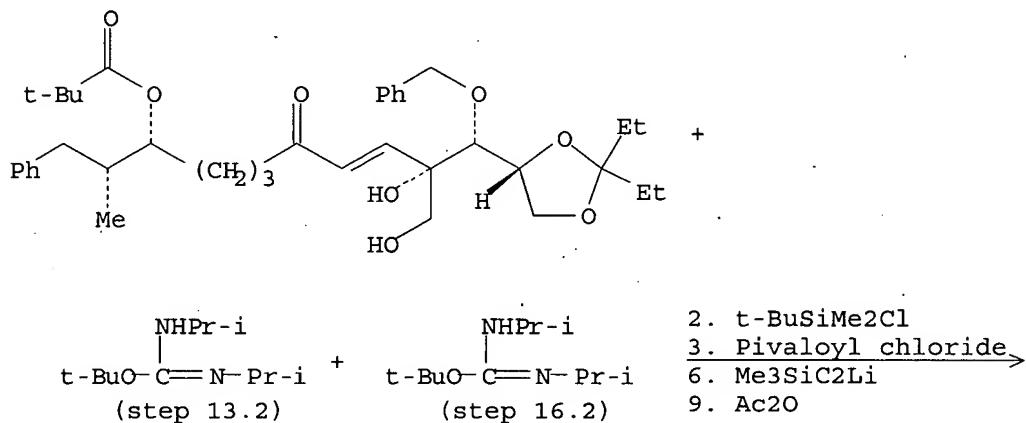
## RX(447) OF 473 - 26 STEPS

1. Me<sub>2</sub>NH  
 3. PhCH<sub>2</sub>Cl  
 4. 1. EtOCH:CH<sub>2</sub>  
 7. 1. t-BuSiMe<sub>2</sub>Cl  
 7. 2. Me<sub>3</sub>SiCl  
13. t-BuSiMe<sub>2</sub>Cl  
 14. Pivaloyl chloride  
 17. Me<sub>3</sub>SiC<sub>2</sub>Li  
 20. Ac<sub>2</sub>O

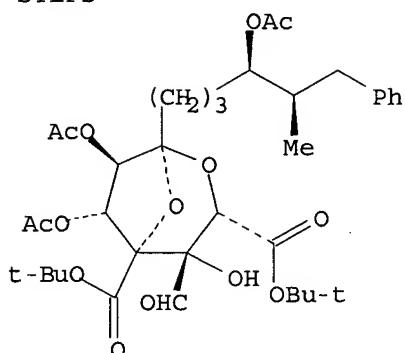


NOTE: 2) regioselective, acidic conditions, 4) stereoselective, 6) chemoselective (stage 1), 7) regioselective, scalable, 10) stereoselective, chemoselective, 12) stereoselective, 13) regioselective, 16) Swern oxidn., in-situ generated reagent, 17) stereoselective, 21) regioselective, 22) chemoselective, 24) buffered soln.

## RX(459) OF 473 - 17 STEPS

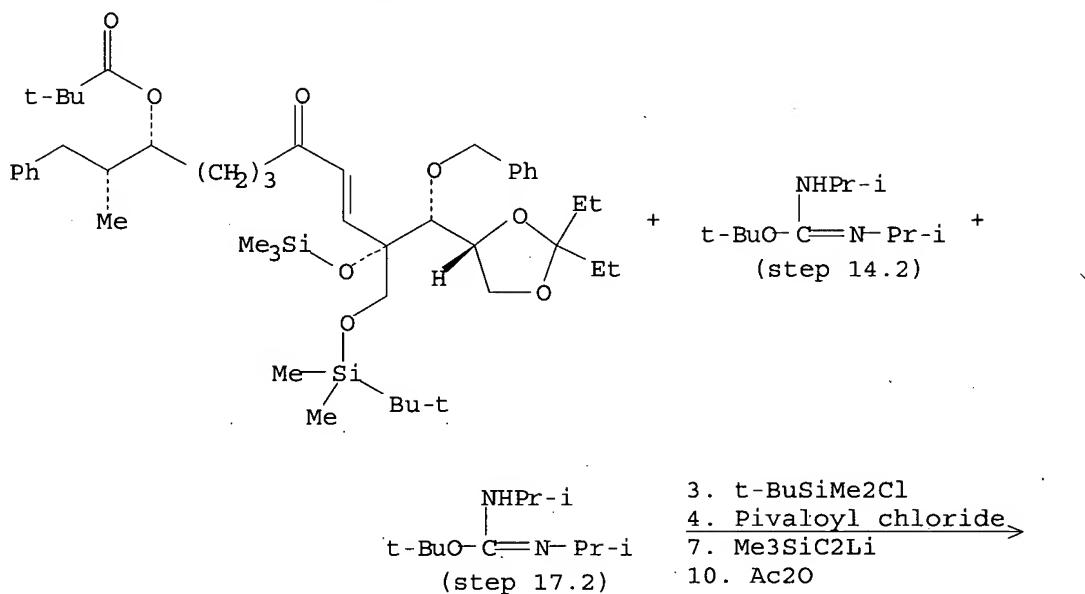


## RX (459) OF 473 - 17 STEPS

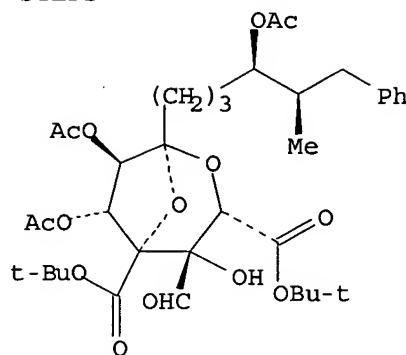


NOTE: 1) stereoselective, 2) regioselective, 5) Swern oxidn., in-situ generated reagent, 6) stereoselective, 10) regioselective, 11) chemoselective, 13) buffered soln., 16) buffered soln.

## RX (460) OF 473 - 18 STEPS



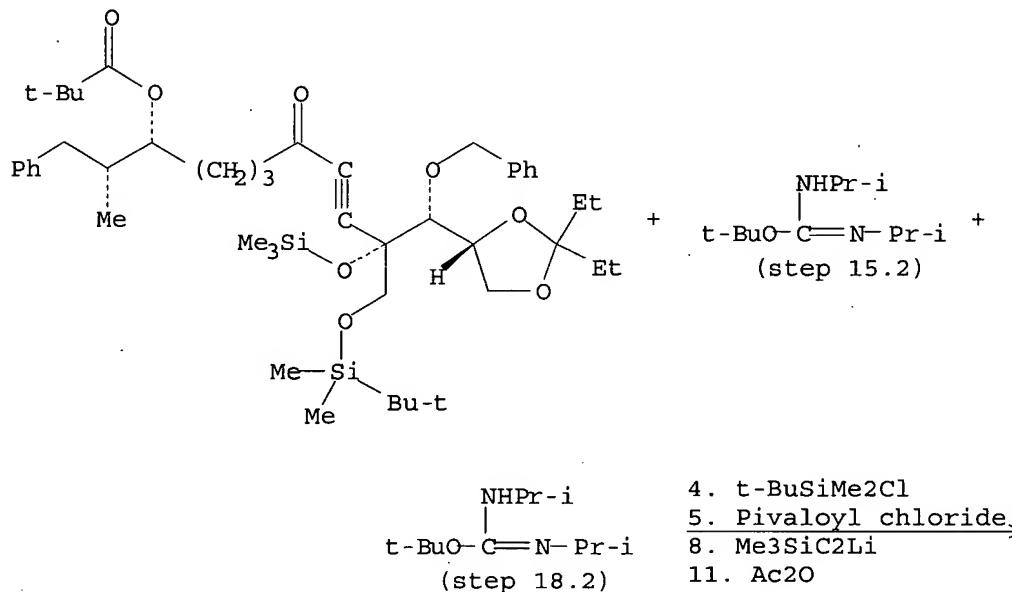
## RX(460) OF 473 - 18 STEPS



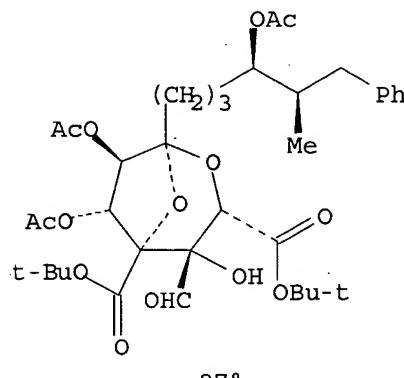
97%

NOTE: 2) stereoselective, 3) regioselective, 6) Swern oxidn., in-situ generated reagent, 7) stereoselective, 11) regioselective, 12) chemoselective, 14) buffered soln., 17) buffered soln.

## RX(461) OF 473 - 19 STEPS

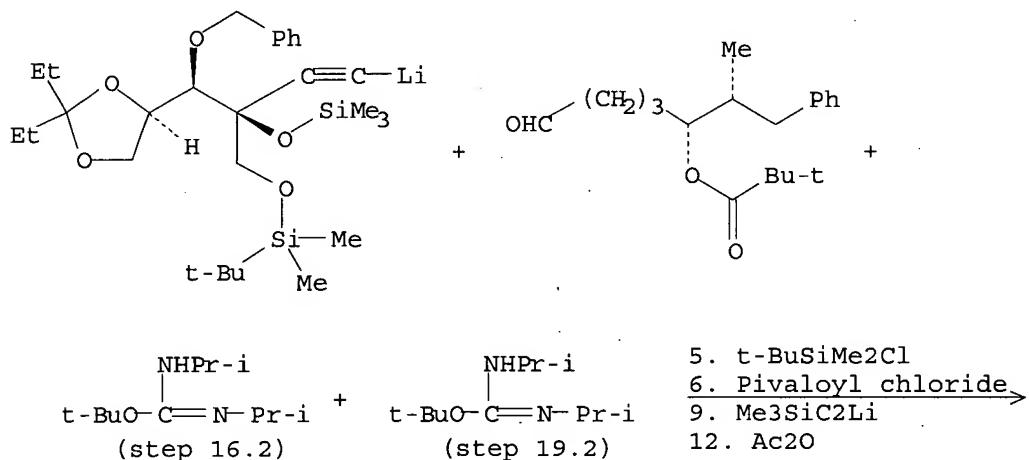


RX(461) OF 473 - 19 STEPS

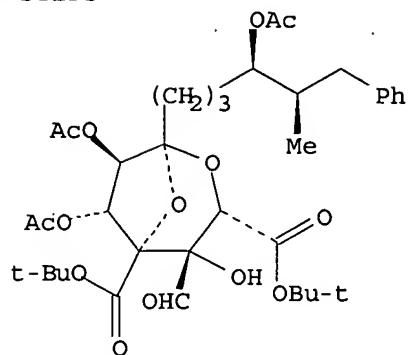


NOTE: 1) stereoselective, chemoselective, 3) stereoselective, 4) regioselective, 7) Swern oxidn., in-situ generated reagent, 8) stereoselective, 12) regioselective, 13) chemoselective, 15) buffered soln., 18) buffered soln.

RX(462) OF 473 - 20 STEPS



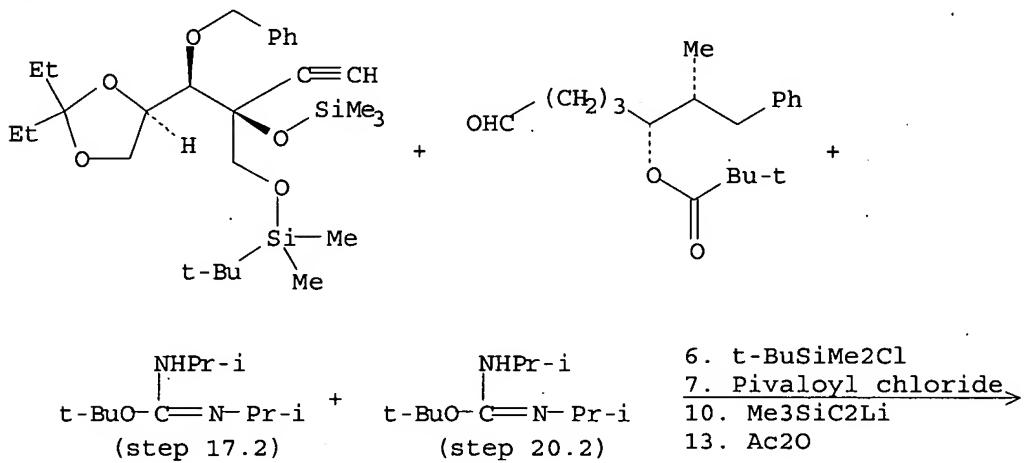
RX (462) OF 473 - 20 STEPS



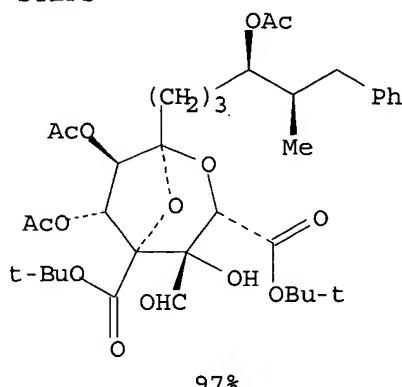
978

NOTE: 2) stereoselective, chemoselective, 4) stereoselective, 5) regioselective, 8) Swern oxidn., in-situ generated reagent, 9) stereoselective, 13) regioselective, 14) chemoselective, 16) buffered soln., 19) buffered soln.

RX (463) OF 473 - 21 STEPS

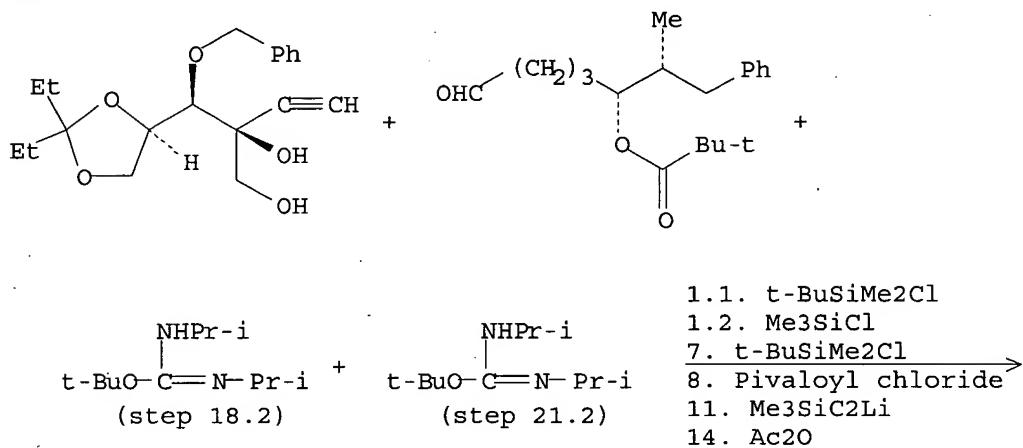


RX(463) OF 473 - 21 STEPS

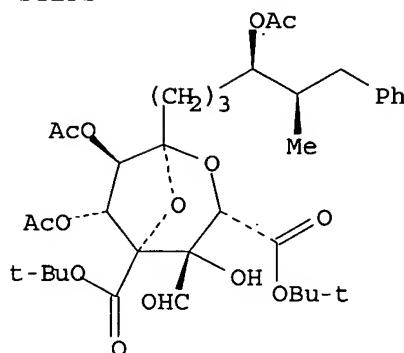


NOTE: 3) stereoselective, chemoselective, 5) stereoselective, 6) regioselective, 9) Swern oxidn., in-situ generated reagent, 10) stereoselective, 14) regioselective, 15) chemoselective, 17) buffered soln., 20) buffered soln.

RX(464) OF 473 - 22 STEPS



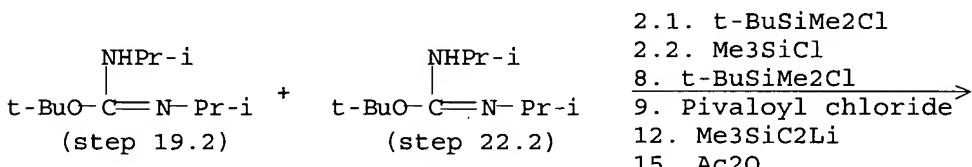
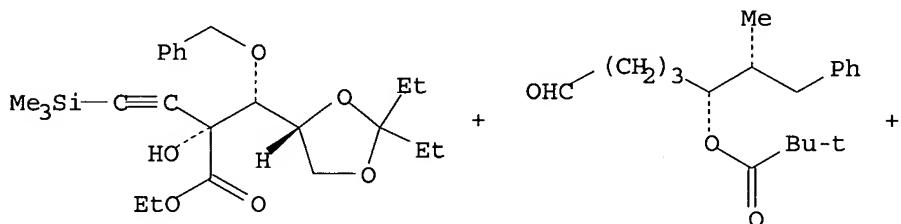
## RX (464) OF 473 - 22 STEPS



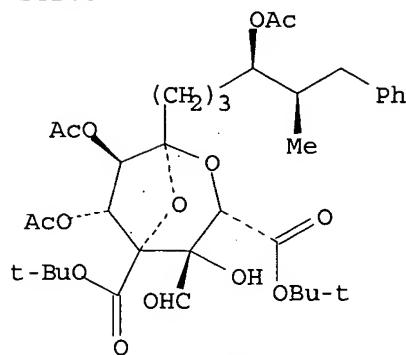
97%

NOTE: 1) regioselective, scalable, 4) stereoselective, chemoselective,  
 6) stereoselective, 7) regioselective, 10) Swern oxidn., in-situ  
 generated reagent, 11) stereoselective, 15) regioselective, 16)  
 chemoselective, 18) buffered soln., 21) buffered soln.

## RX (465) OF 473 - 23 STEPS

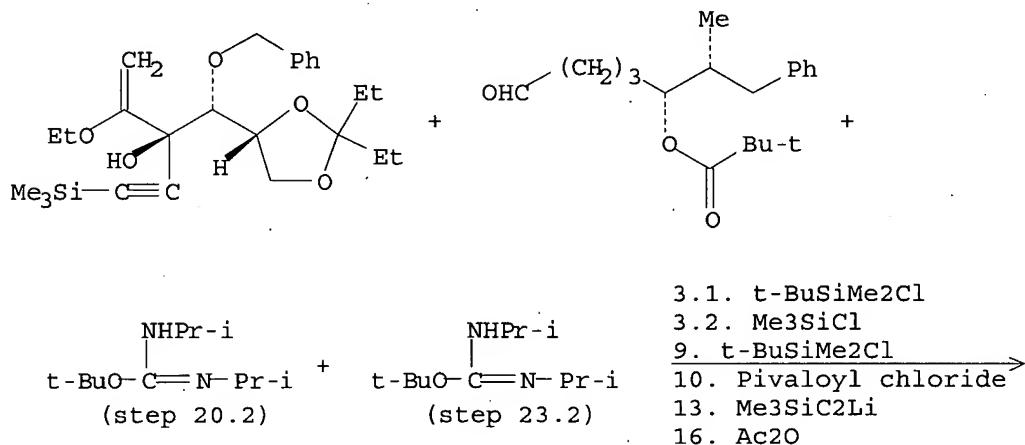


RX(465) OF 473 - 23 STEPS

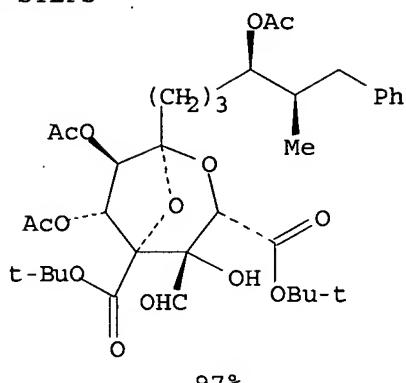


NOTE: 1) chemoselective (stage 1), 2) regioselective, scalable, 5) stereoselective, chemoselective, 7) stereoselective, 8) regioselective, 11) Swern oxidn., in-situ generated reagent, 12) stereoselective, 16) regioselective, 17) chemoselective, 19) buffered soln., 22) buffered soln.

RX(466) OF 473 - 24 STEPS



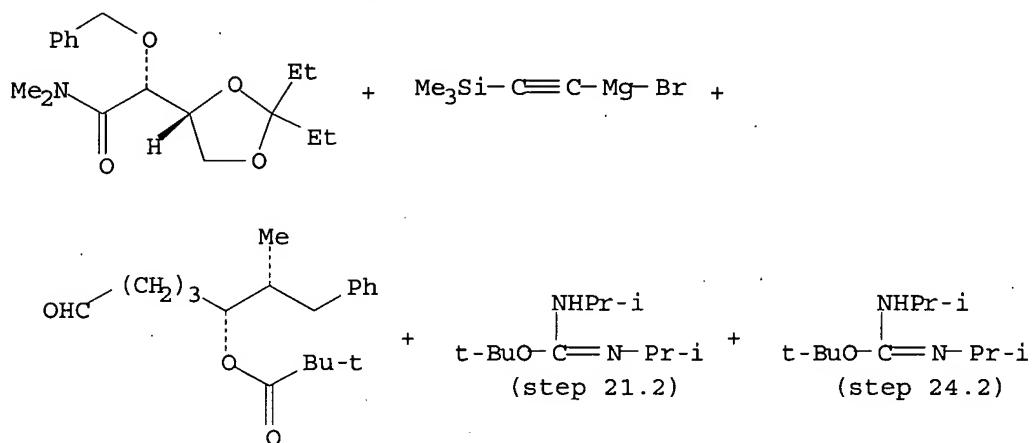
RX (466) OF 473 - 24 STEPS



978

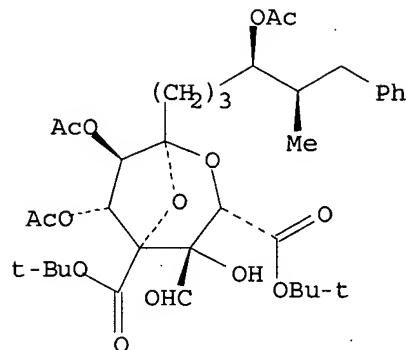
NOTE: 2) chemoselective (stage 1), 3) regioselective, scalable, 6) stereoselective, chemoselective, 8) stereoselective, 9) regioselective, 12) Swern oxidn., in-situ generated reagent, 13) stereoselective, 17) regioselective, 18) chemoselective, 20) buffered soln., 23) buffered soln.

RX (467) OF 473 - 25 STEPS



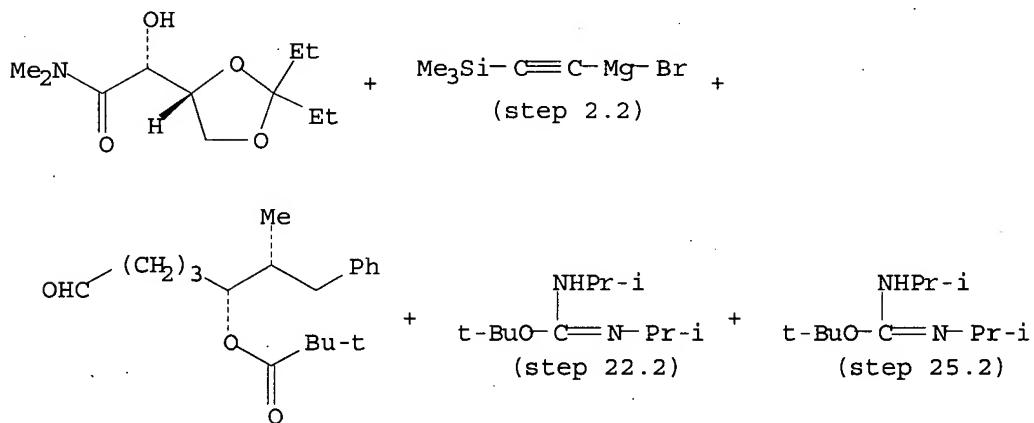
## RX(467) OF 473 - 25 STEPS

1.1. EtOCH:CH<sub>2</sub>  
 4.1. t-BuSiMe<sub>2</sub>Cl  
 4.2. Me<sub>3</sub>SiCl  
 10. t-BuSiMe<sub>2</sub>Cl  
 11. Pivaloyl chloride  
 14. Me<sub>3</sub>SiC<sub>2</sub>Li  
 17. Ac<sub>2</sub>O



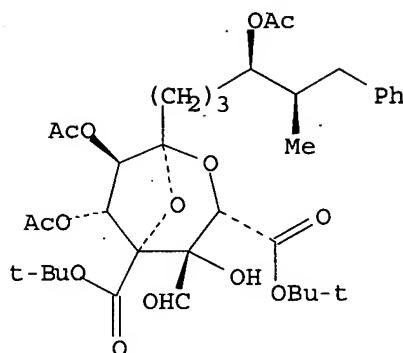
NOTE: 1) stereoselective, 3) chemoselective (stage 1), 4)  
 regioselective, scalable, 7) stereoselective, chemoselective, 9)  
 stereoselective, 10) regioselective, 13) Swern oxidn., in-situ  
 generated reagent, 14) stereoselective, 18) regioselective, 19)  
 chemoselective, 21) buffered soln., 24) buffered soln.

## RX(468) OF 473 - 26 STEPS



RX (468) OF 473 - 26 STEPS

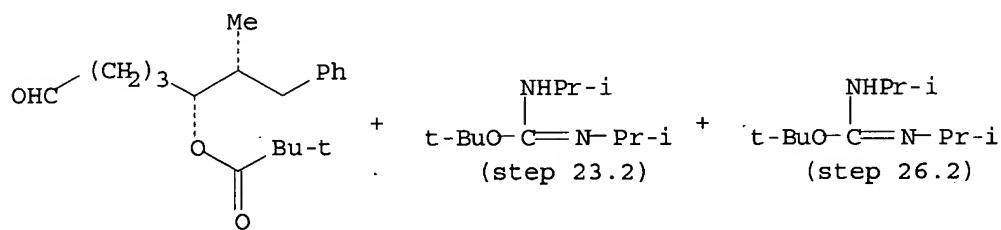
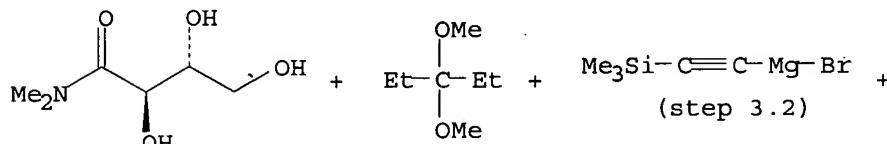
1. PhCH<sub>2</sub>Cl
2. 1. EtOCH:CH<sub>2</sub>
5. 1. t-BuSiMe<sub>2</sub>Cl
5. 2. Me<sub>3</sub>SiCl
11. t-BuSiMe<sub>2</sub>Cl
12. Pivaloyl chloride
15. Me<sub>3</sub>SiC<sub>2</sub>Li
18. Ac<sub>2</sub>O



97%

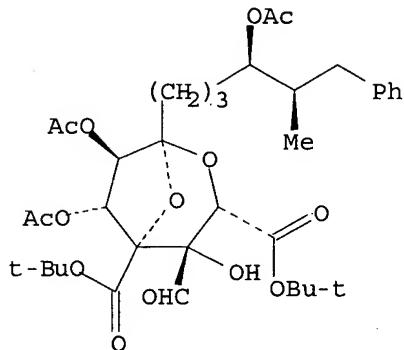
NOTE: 2) stereoselective, 4) chemoselective (stage 1), 5) regioselective, scalable, 8) stereoselective, chemoselective, 10) stereoselective, 11) regioselective, 14) Swern oxidn., in-situ generated reagent, 15) stereoselective, 19) regioselective, 20) chemoselective, 22) buffered soln., 25) buffered soln.

RX (469) OF 473 - 27 STEPS



## RX(469) OF 473 - 27 STEPS

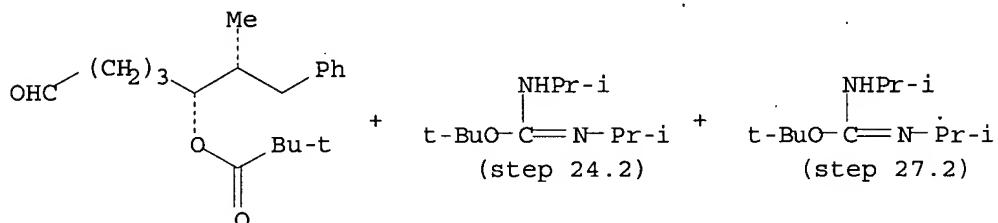
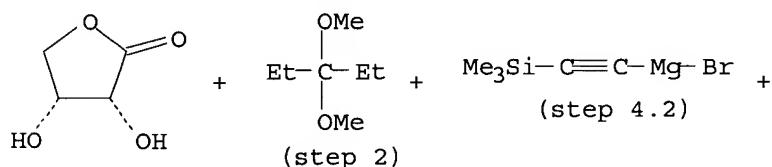
2. PhCH<sub>2</sub>Cl  
 3.1. EtOCH:CH<sub>2</sub>  
 6.1. t-BuSiMe<sub>2</sub>Cl  
 6.2. Me<sub>3</sub>SiCl  
 12. t-BuSiMe<sub>2</sub>Cl  
 13. Pivaloyl chloride  
 16. Me<sub>3</sub>SiC<sub>2</sub>Li  
 19. Ac<sub>2</sub>O



97%

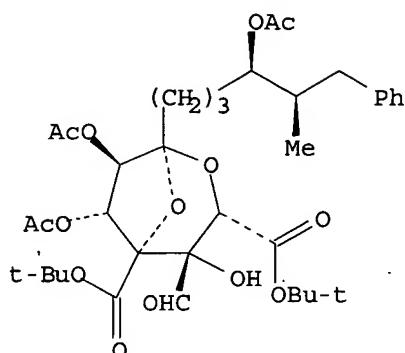
NOTE: 1) regioselective, acidic conditions, 3) stereoselective, 5)  
 chemoselective (stage 1), 6) regioselective, scalable, 9)  
 stereoselective, chemoselective, 11) stereoselective, 12)  
 regioselective, 15) Swern oxidn., in-situ generated reagent, 16)  
 stereoselective, 20) regioselective, 21) chemoselective, 23)  
 buffered soln., 26) buffered soln.

## RX(470) OF 473 - 28 STEPS



RX(470) OF 473 - 28 STEPS

1. Me<sub>2</sub>NH  
 3. PhCH<sub>2</sub>Cl  
 4.1. EtOCH:CH<sub>2</sub>  
 7.1. t-BuSiMe<sub>2</sub>Cl  
 7.2. Me<sub>3</sub>SiCl  
13. t-BuSiMe<sub>2</sub>Cl  
 14. Pivaloyl chloride  
 17. Me<sub>3</sub>SiC<sub>2</sub>Li  
 20. Ac<sub>2</sub>O



NOTE: 2) regioselective, acidic conditions, 4) stereoselective, 6) chemoselective (stage 1), 7) regioselective, scalable, 10) stereoselective, chemoselective, 12) stereoselective, 13) regioselective, 16) Swern oxidn., in-situ generated reagent, 17) stereoselective, 21) regioselective, 22) chemoselective, 24) buffered soln., 27) buffered soln.

L13 ANSWER 6 OF 12 CASREACT COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:

120:191277 CASREACT

TITLE:

Convenient synthesis of 1,1'-binaphthyl-2,2'-dicarboxylic acid

AUTHOR(S):

Oi, Shuichi; Matsunaga, Kenichi; Hattori, Tetsutaro; Miyano, Sotaro

CORPORATE SOURCE:

Fac. Eng., Tohoku Univ., Sendai, 980, Japan

SOURCE:

Synthesis (1993), (9), 895-8

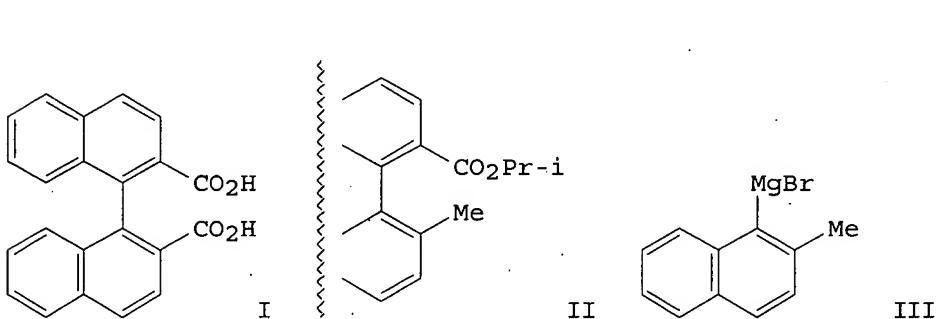
DOCUMENT TYPE:

CODEN: SYNTBF; ISSN: 0039-7881

LANGUAGE:

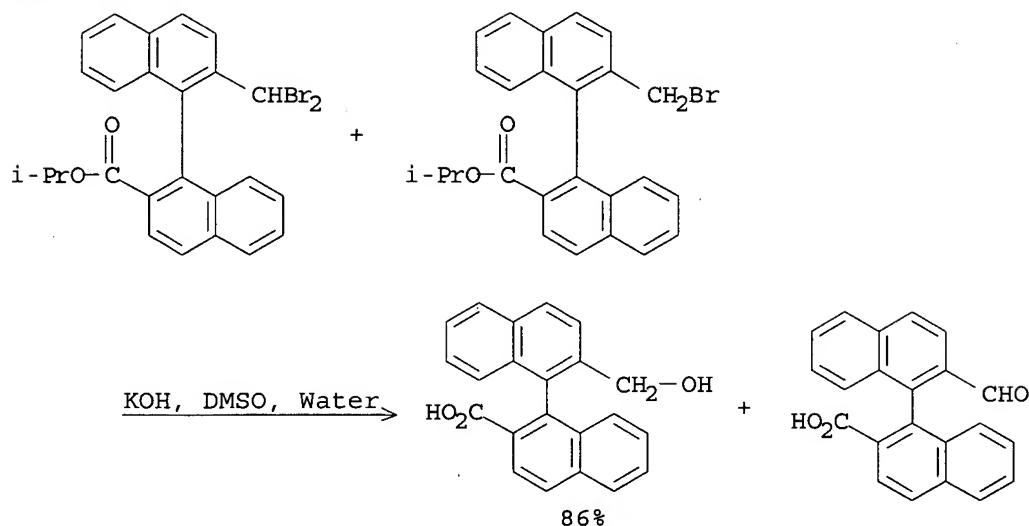
Journal

GI



AB Two syntheses of title compound I in good yields are presented via the oxidation of the 2'-Me substituent binaphthylcarboxylate II, which is readily obtainable by reaction of naphthyl Grignard III with iso-Pr 1-isopropoxy-2-naphthoate.

RX (5) OF 74



L13 ANSWER 7 OF 12 CASREACT COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 116:193986 CASREACT

## Synthesis of 3-vinylcephalosporins and their

AUTHOR(S): Pitlik, Janos; Batta, Gyula; Sztaricskai, Ferenc; 1,3-dipolar cycloaddition reactions with diazo alkanes

Erdodi Kover, Katalin

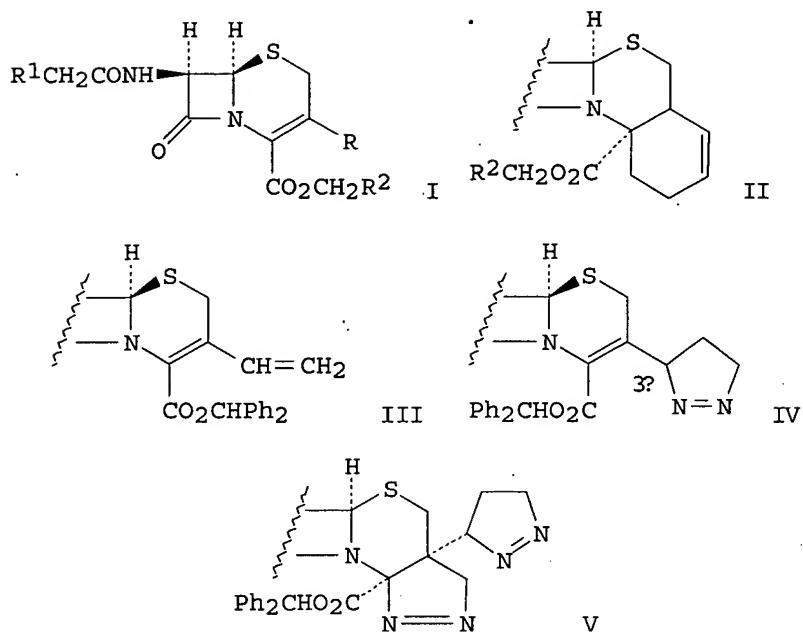
CORPORATE SOURCE: Antibiot. Kem. Kutatocsoport, MTA, Debrecen, 4010, Hung.

SOURCE: Magyar Kemiai Folyoirat (1991), 97(12), 493-509  
CODEN: MGKFA3; ISSN: 0025-0155

DOCUMENT TYPE: Journal

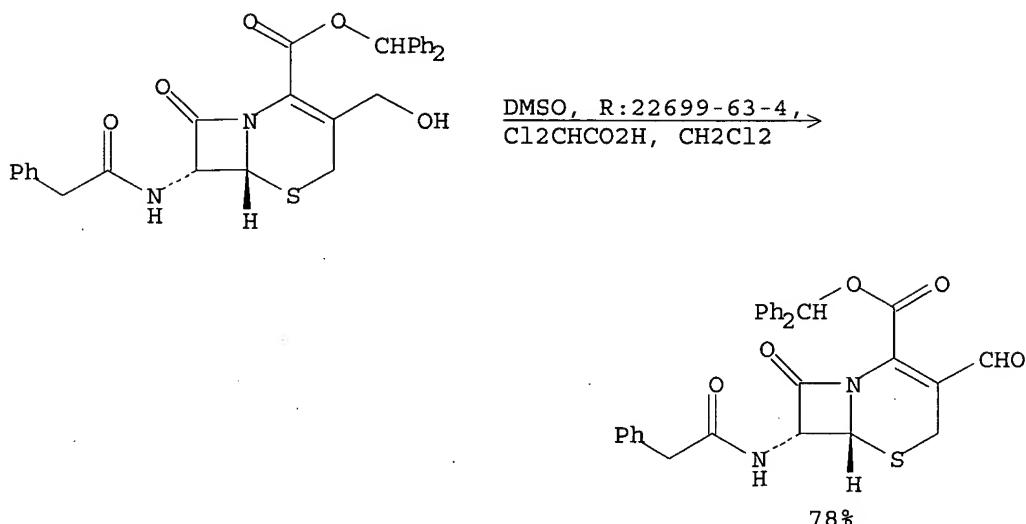
LANGUAGE : Hungarian

GI



AB Chromatog. inseparable mixts. of cis/trans isomers of 3-vinylcephalosporins I (R = e.g., CH:CHR3 with R3 = H, Me, heteroaryl; R1 = Ph, PhO; R2 = H, vinyl) were prepared in up to 81% total yield by iodination of acetoxyethyl derivs. I (R = CH2OAc) with Me3SiI and conversion of the corresponding iodomethyl derivs. to phosphonium iodide Wittig reagents for subsequent olefination with R3CHO. Substituent R3 = Me favored the corresponding cis-3-vinylcephalosporin in ratio 5:1, whereas heteroaryl aldehydes resulted in predominantly trans mixts. Wittig reaction with acrolein afforded tricyclic derivative II whose 4-R configuration was established on the basis of mol. modeling calcns. Me3SiI was also applied to the reduction of cephalosporin-1S( $\beta$ ) sulfoxides, affording, e.g., the acetoxyethyl derivs. I (R = CH2OAc, R1 = Ph, PhO; R2 = H) in 65 and 75% yields, resp. An alternative route to 3-vinylcephalosporins involved Wittig reaction of 3-formylcephalosporins I (R = CHO), themselves prepared by DMSO/dicyclohexylcarbodiimide oxidation of the corresponding hydroxymethyl derivs. I (R = CH2OH). Regio- and stereoselective dipolar cycloaddn. reaction of CH2N2 with III (R1 = Ph) afforded the pyrazolyl  $\beta$ -adduct IV with S configuration at C-3' (NOE-mol. modeling determination) together with pyrazolinopyrazolylcephalosporin V. Similar regio- and stereoselectivity was observed for the reaction of III 1S( $\beta$ ) sulfoxide with CH2N2, affording the corresponding IV sulfoxide.

RX(10) OF 16



NOTE: optimization

L13 ANSWER 8 OF 12 CASREACT COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 111:174558 CASREACT

TITLE:

Semisynthetic macrolide antibacterials derived from tylosin. Synthesis of 3-O-acetyl-23-O-demycinosyl-4"-O-isovaleryltylosin and related compounds, as well as the 12,13-epoxy derivatives

AUTHOR(S):

Fishman, Andrew G.; Mallams, Alan K.; Rossman, Randall R.

CORPORATE SOURCE:

Res. Div., Schering-Plough Corp., Bloomfield, NJ, 07003, USA

SOURCE:

Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1989), (4), 787-98

CODEN: JCPRB4; ISSN: 0300-922X

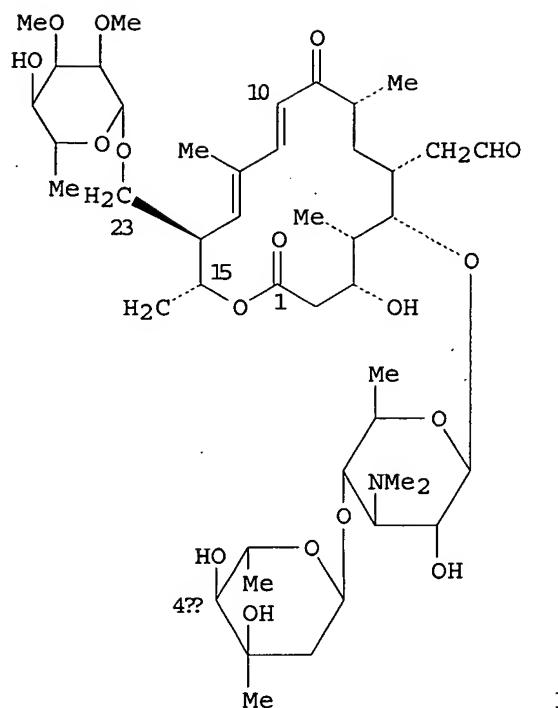
DOCUMENT TYPE:

Journal

LANGUAGE:

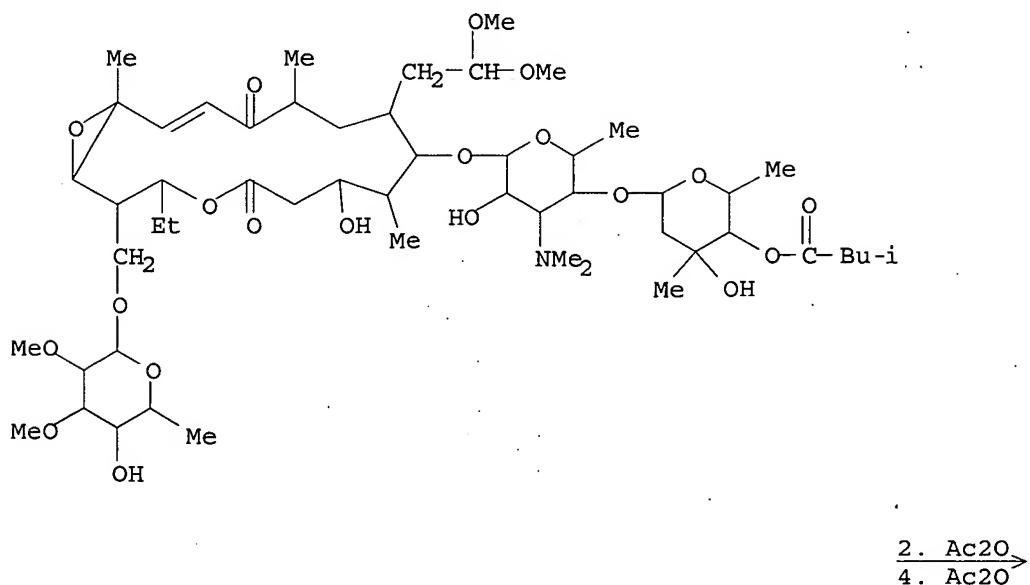
English

GI

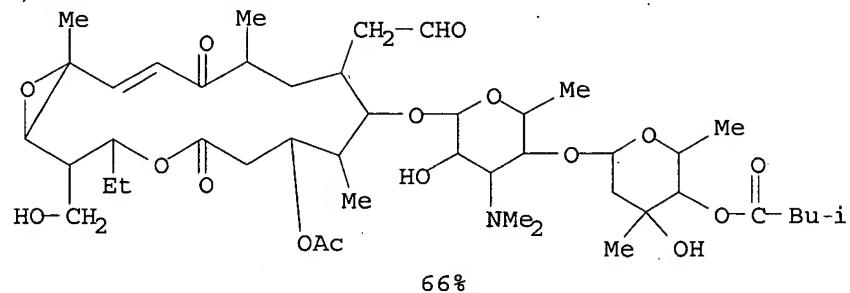


AB Selective acylation techniques have been developed that enable the synthesis of 3-O-acetyl-4''-O-isovaleryltylosin and 3-O-acetyl-23-O-demycinosyl-4''-O-isovaleryltylosin to be carried out in an efficient manner starting from tylosin (I). The 2'-O-acetyl, 23-O-acetyl, and 2',23-di-O-acetyl derivs. of the latter were also prepared, as were key hydrazones. The regio- and stereoselective epoxidn. of tylosin and its acyl derivs. afforded the 12,13-epoxy analogs, which were used to synthesize novel acylated 12,13-epoxy derivs. of 23-O-demycinosyltylosin.

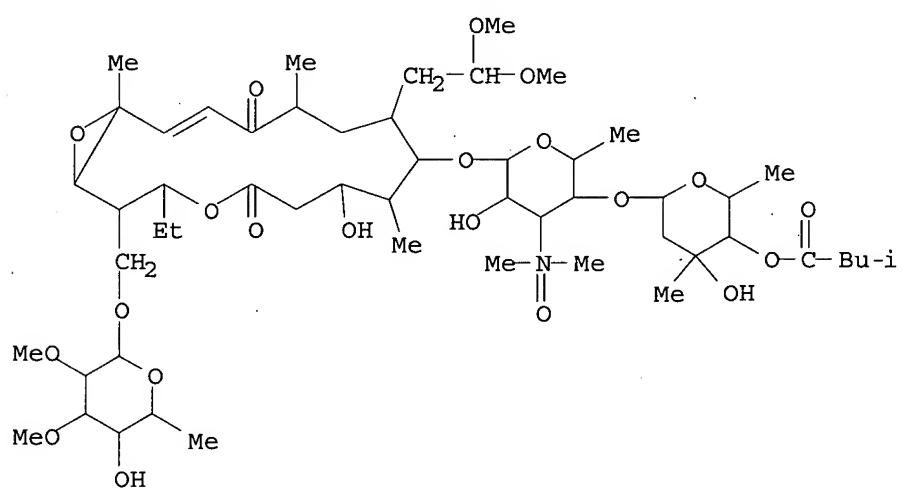
RX (853) OF 862 - 5 STEPS



RX (853) OF 862 - 5 STEPS

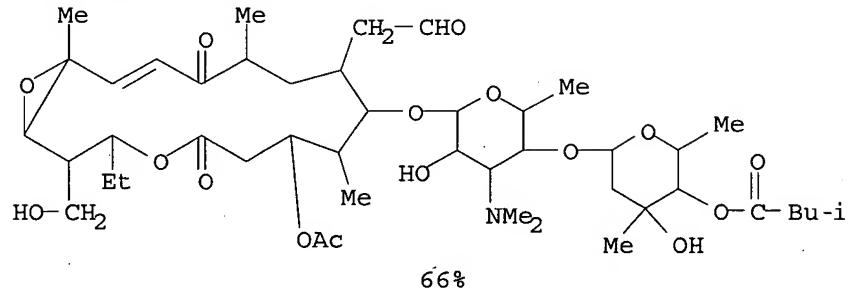


RX (854) OF 862 - 6 STEPS



3. Ac<sub>2</sub>O  
5. Ac<sub>2</sub>O

RX (854) OF 862 - 6 STEPS

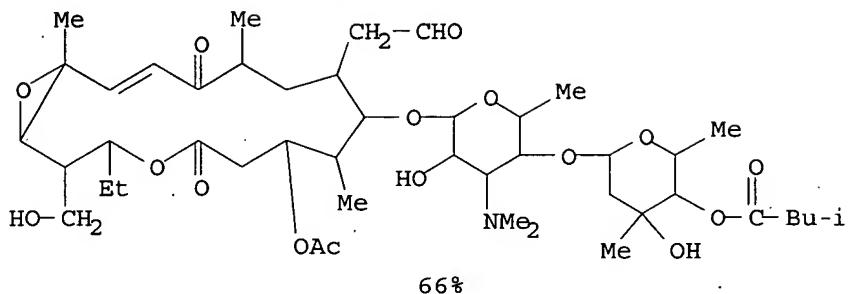


RX(855) OF 862 - 7 STEPS

MULTI

PAGE 4. Ac2O  
IMAGE 6. Ac2O

122076-92-0

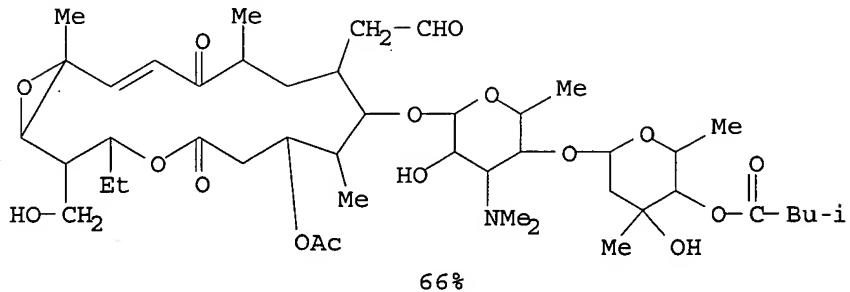


RX(856) OF 862 - 8 STEPS

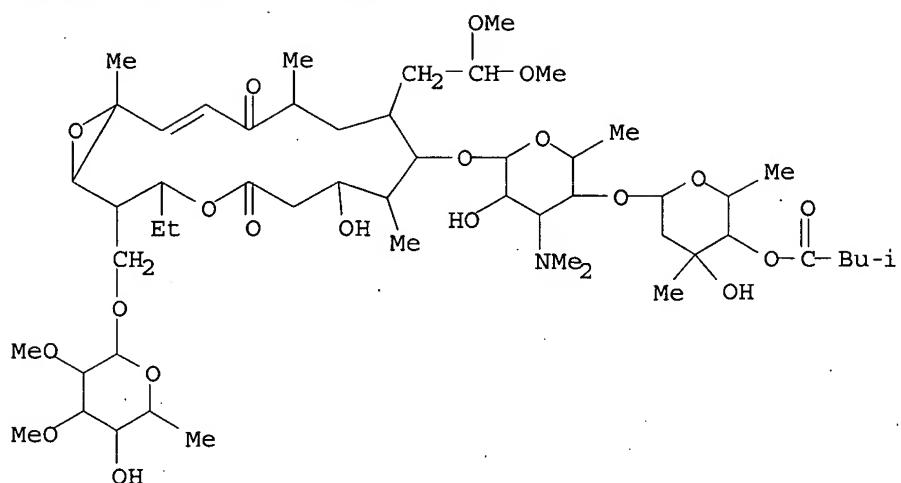
MULTI

PAGE 1. MeOH  
IMAGE 5. Ac2O  
7. Ac2O

63408-91-3

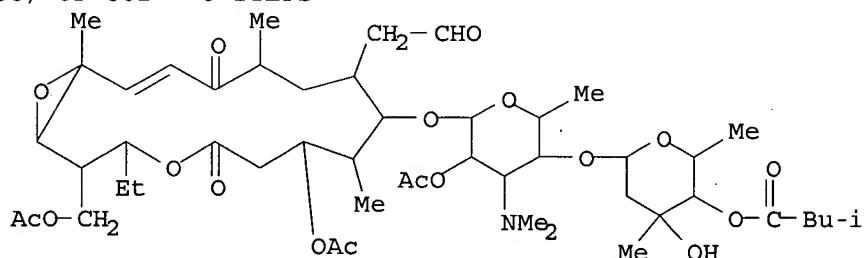


RX (858) OF 862 - 6 STEPS



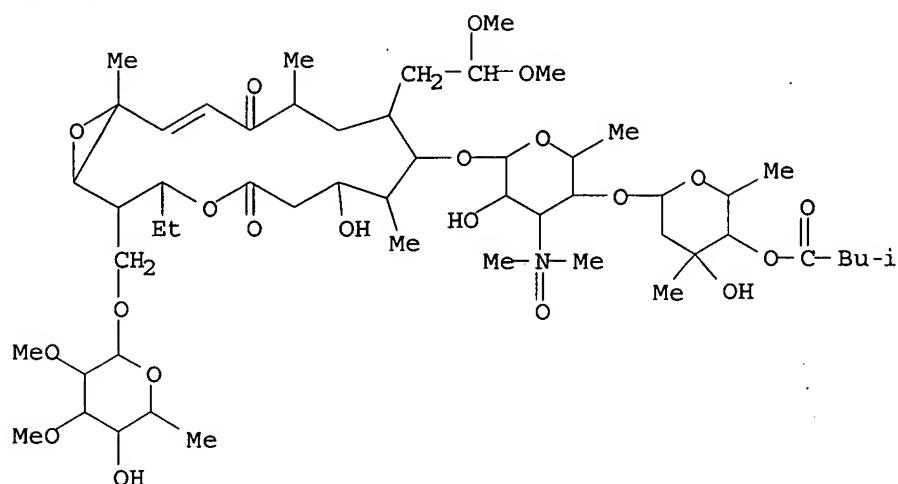
2. Ac<sub>2</sub>O  
 4. Ac<sub>2</sub>O  
6. Ac<sub>2</sub>O

RX (858) OF 862 - 6 STEPS



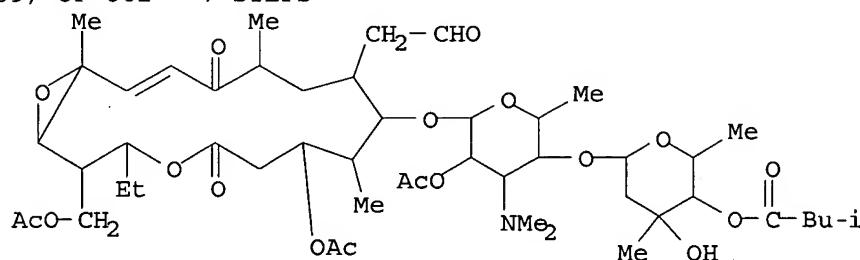
88%

RX (859) OF 862 - 7 STEPS



3. Ac<sub>2</sub>O  
 5. Ac<sub>2</sub>O  
 7. Ac<sub>2</sub>O

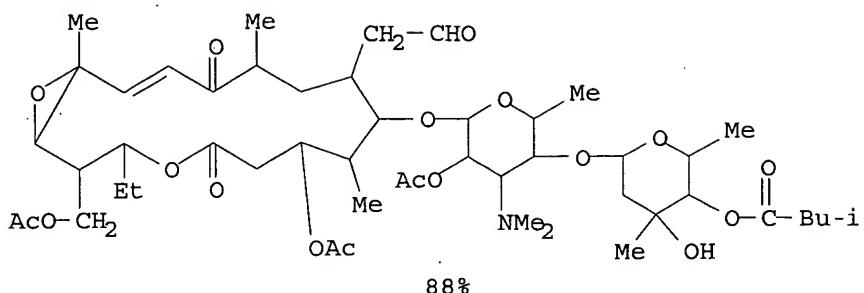
RX (859) OF 862 - 7 STEPS



RX(860) OF 862 - 8 STEPS

MULTI 4. Ac2O  
PAGE 6. Ac2O  
IMAGE 8. Ac2O

122076-92-0



L13 ANSWER 9 OF 12 CASREACT COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:

110:193300 CASREACT

ACCESSION  
TITLE:

## Synthesis of tritium-labeled 9-deazainosine

AUTHOR (S) :

Synthesis of Cytosine-Substituted  $\beta$ -D-Glucosamine  
Singh, Ambarish K.; Klein, Robert S.  
Lab. Org. Chem., Mem. Sloan-Kettering Cancer Cent.,

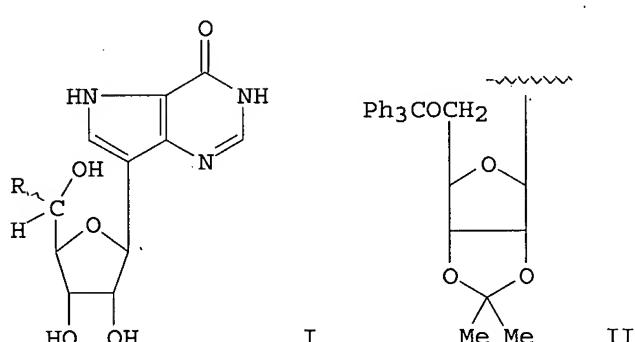
2000-01-02

New York, NY, 10021, USA  
Journal of Labelled Compounds and Radiopharmaceuticals

(1988), 25(11), 1219-28  
SCDPM 71-SPR-1 ISSN 0850-4488

CODEN: J

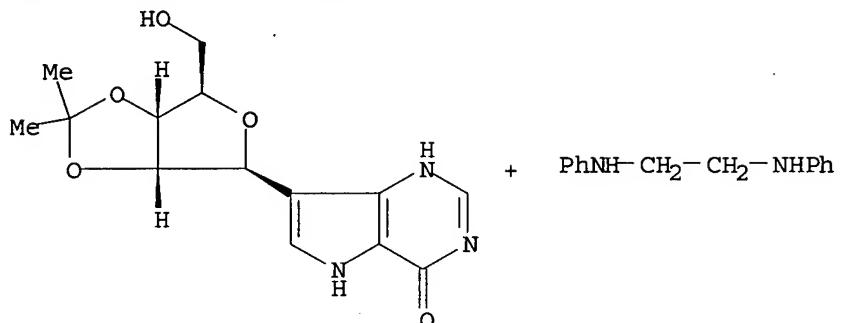
## DOCUMENT



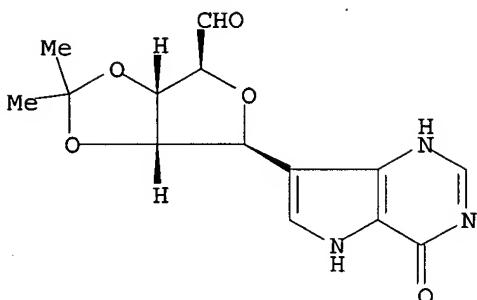
AB The synthesis of labeled 9-deazainosine I ( $R = 3H, 2H$ ) from the fully blocked 9-deazainosine II is achieved in six steps by selective detritylation, oxidation of the C-5' hydroxyl group, followed by purification via its  $N,N'$ -diphenylimidazolidine derivative, deprotection to obtain the 5'-aldehyde, [ $3H$ ]-NaBH<sub>4</sub> reduction (treatment with NaBD<sub>4</sub> to reduce unreacted aldehyde), and deisopropylidenation to give the labeled nucleoside. The sequence is of general utility in labeling nucleosides at the C-5'

position for biochem. studies.

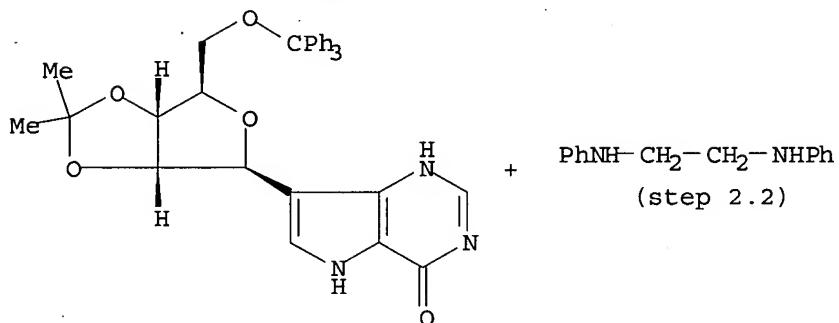
## RX (27) OF 67 - 3 STEPS



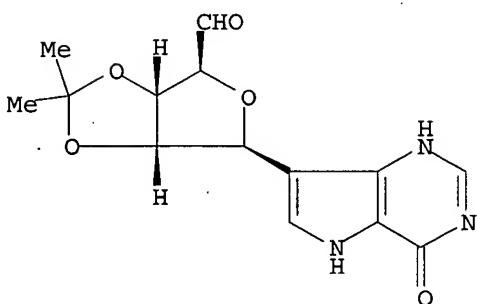
1.1. DMSO,  $\text{Cl}_2\text{CHCO}_2\text{H}$ ,  
DCC  
1.2. MeOH  
2. Bio-Rad AG 50W-X8,  
THF, Water  
3. Benzene



## RX (28) OF 67 - 4 STEPS



1.1. TsOH,  $\text{CH}_2\text{Cl}_2$   
1.2.  $\text{NaHCO}_3$ , Water  
2.1. DMSO,  $\text{Cl}_2\text{CHCO}_2\text{H}$ ,  
DCC  
2.2. MeOH  
3. Bio-Rad AG 50W-X8,  
THF, Water  
4. Benzene



L13 ANSWER 10 OF 12 CASREACT COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 110:173727 CASREACT

TITLE: Approaches to isozyme-specific inhibitors. 16. A novel methyl-C5' covalent adduct of L-ethionine and  $\beta,\gamma$ -imido-ATP as a potent multisubstrate inhibitor of rat methionine adenosyltransferases

AUTHOR(S): Vrudhula, Vivekananda M.; Kappler, Francis; Afshar, Carol; Ginell, Stephan L.; Lessinger, Leslie; Hampton, Alexander

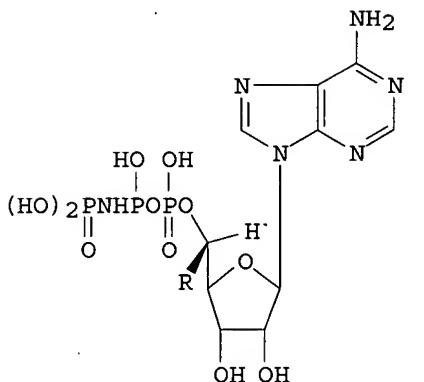
CORPORATE SOURCE: Fox Chase Cancer Cent., Inst. Cancer Res., Philadelphia, PA, 19111, USA

SOURCE: Journal of Medicinal Chemistry (1989), 32(4), 885-90  
CODEN: JMCMAR; ISSN: 0022-2623

DOCUMENT TYPE: Journal

LANGUAGE: English

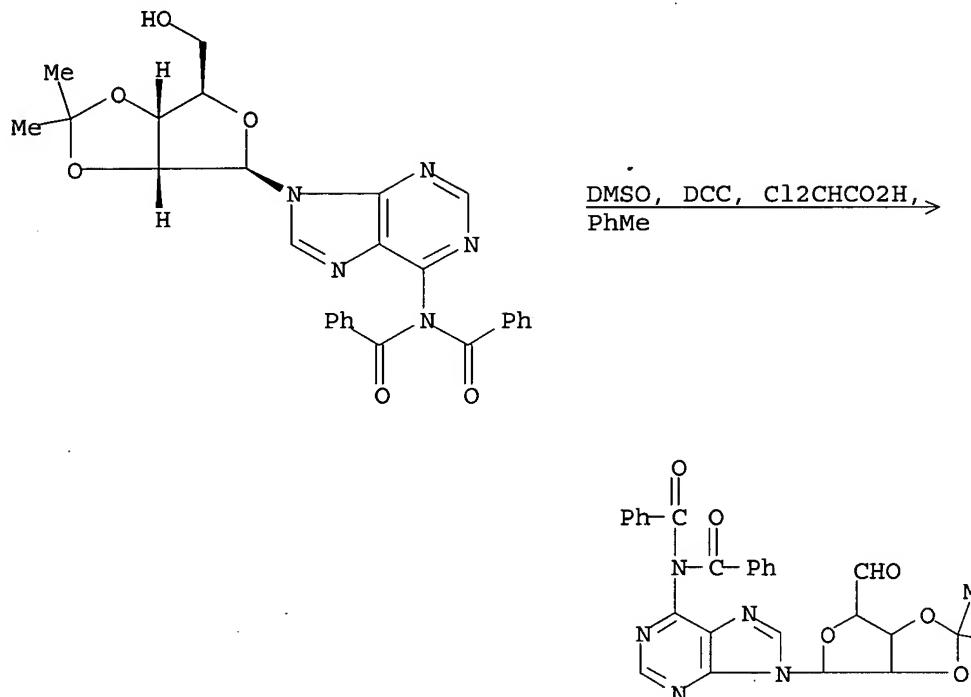
GI



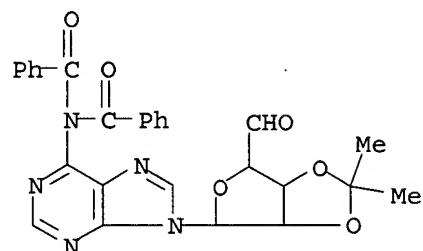
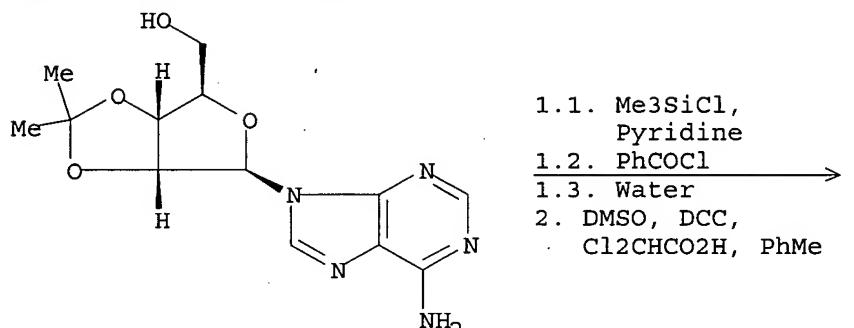
AB N6,N6-Dibenzoyl-2',3'-O-isopropylideneadenosine, which is readily synthesized by one-pot 5'-O-trimethylsilylation, N6-benzoylation, and desilylation, was converted to the corresponding 5'-aldehyde. This was treated with CH<sub>2</sub>:CHMgBr to afford, after debenzoylation, a 1:3 mixture of the 5'S and 5'R epimers, resp., of 5'-C-vinyl-2',3'-O-isopropylideneadenosine. The configurations were established by single-crystal x-ray diffraction anal. of the 5'R epimer. Hydroboration of the 5'-O-tetrahydropyranyl derivative of the mixed epimeric 5'-C-vinyl nucleosides readily furnished 5'(S,R)-C-(2-hydroxyethyl)-2',3'-O-isopropylideneadenosine. Treatment of the 5'(S,R)-C(2-O-tosyl) derivative of this with disodium L-homocysteinate permitted facile introduction of the L-ethionine system. The  $\alpha$ -amino acid group was protected, a  $\beta,\gamma$ -imidotriphosphoryl group was introduced at O5', and blocking groups were removed to give the title adduct I [R = (CH<sub>2</sub>)<sub>n</sub>-(L)-SCH<sub>2</sub>CH<sub>2</sub>CH(NH<sub>2</sub>)CO<sub>2</sub>H, n = 2] (II), as a 2:3 mixture of its two 5' epimers. II was a powerful inhibitor [KM(ATP)/Ki = 520 and 340] of the M-2 (normal tissue) and M-T (hepatoma tissue) forms, resp., of the title enzyme and displayed predominantly competitive kinetics with the two substrates L-methionine and MgATP. II inhibited M-2 and M-T slightly less effectively than I (n = 1), and gave kinetic evidence of an increased

tendency to form L-methionine-enzyme-adduct and MgATP-enzyme-adduct complexes.

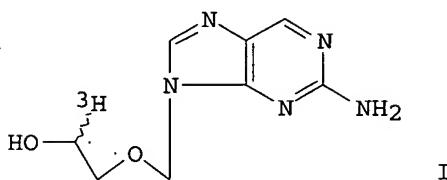
## RX (2) OF 47



## RX (14) OF 47 - 2 STEPS

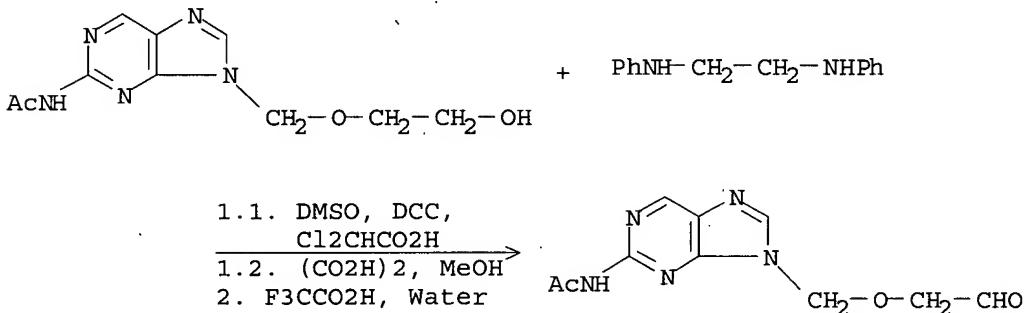


L13 ANSWER 11 OF 12 CASREACT COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 110:173659 CASREACT  
 TITLE: Synthesis of [3H]-desciclovir, prodrug of the  
 antiviral acyclovir  
 AUTHOR(S): Moorman, Allan R.; Hill, John A.  
 CORPORATE SOURCE: Dep. Exp. Ther., Wellcome Res. Lab., Research Triangle  
 Park, NC, 27709, USA  
 SOURCE: Journal of Labelled Compounds and Radiopharmaceuticals  
 (1988), 25(9), 963-9  
 CODEN: JLCRD4; ISSN: 0362-4803  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



AB The title compound I was prepared by direct radiochem. synthesis from 2-acetylamino-9-[(2-hydroxyethoxy)methyl]-9H-purine. The product had a specific activity of 21.5 Ci mmol<sup>-1</sup> and a radiochem. purity of 99.2%.

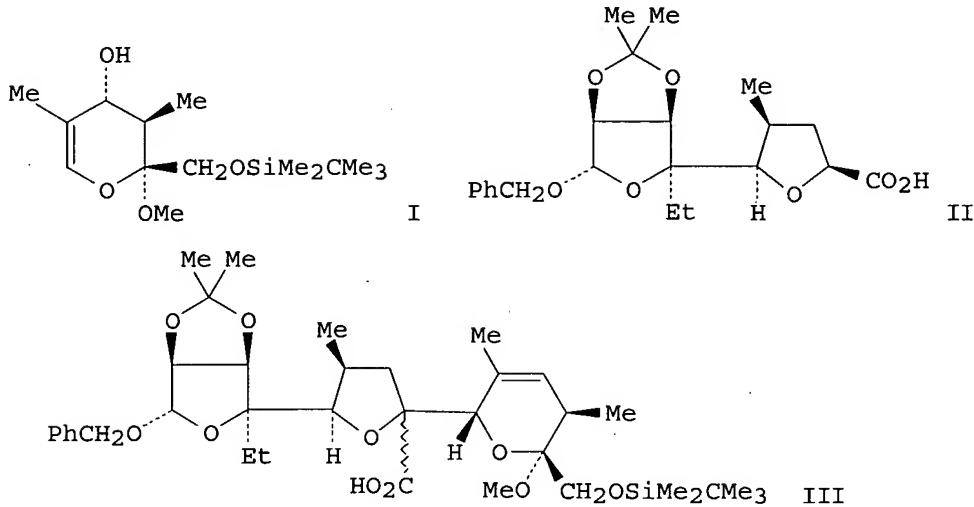
RX(5) OF 10 - 2 STEPS



L13 ANSWER 12 OF 12 CASREACT COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 102:203790 CASREACT  
 TITLE: Convergent synthesis of polyether ionophore  
 antibiotics: an approach to the synthesis of the  
 monensin tetrahydropyran-bis(tetrahydrofuran) via the  
 ester enolate Claisen rearrangement and reductive  
 decarboxylation  
 AUTHOR(S): Ireland, Robert E.; Norbeck, Daniel W.; Mandel,  
 Gretchen S.; Mandel, Neil S.  
 CORPORATE SOURCE: Chem. Lab., California Inst. Technol., Pasadena, CA,

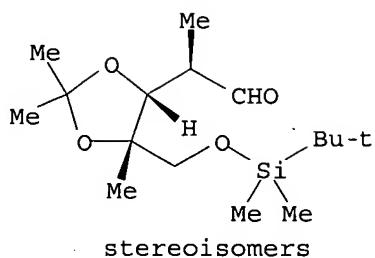
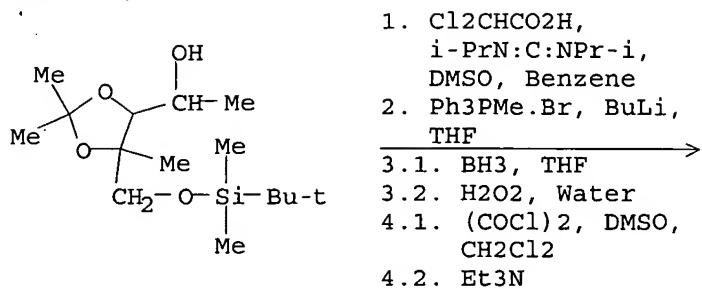
SOURCE: 91125, USA  
 Journal of the American Chemical Society (1985),  
 107(11), 3285-94  
 CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI

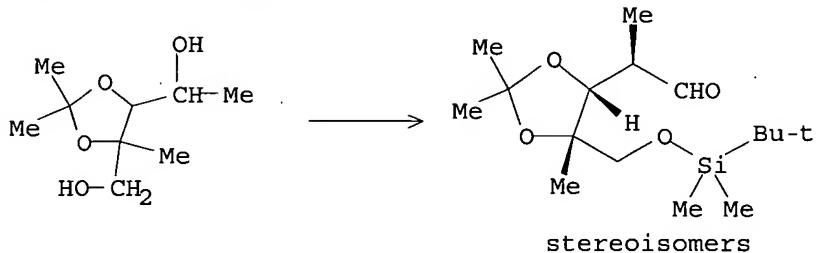


AB The monensin tetrahydropyran equivalent I was prepared from D-fructose and then joined to the monensin bis(tetrahydrofuran) equivalent II via the ester enolate Claisen rearrangement. The radical induced, reductive decarboxylation of the resulting acid III was carried out via the phenylseleno ester. Anomeric stabilization of the intermediate tetrahydrofuran-2-yl radical is an important factor in the stereochem. outcome of this process. Reduction of 1-chloro-2,3-O-isopropylidene furanoid and pyranoid carbohydrate derivs. with lithium di-tert-butylbiphenyl affords the corresponding glycals in high yield.

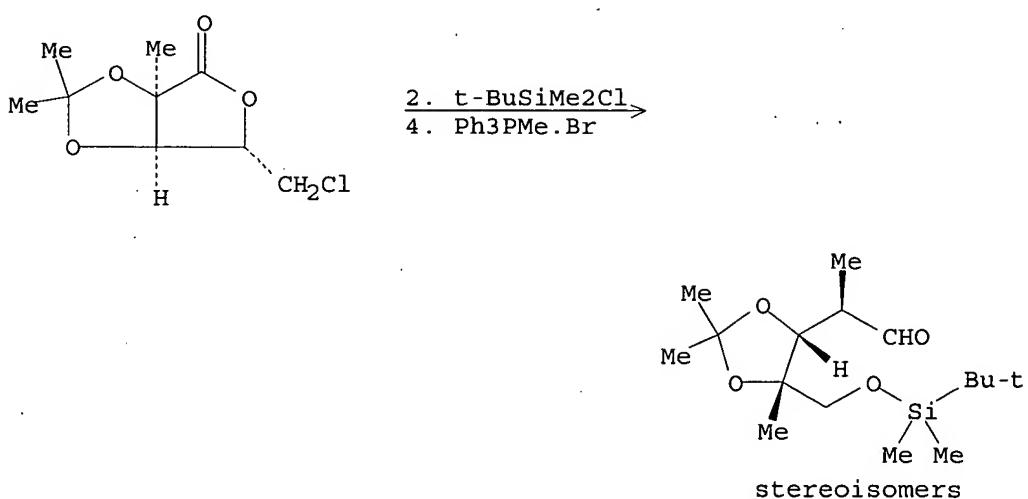
## RX(95) OF 631 - 4 STEPS



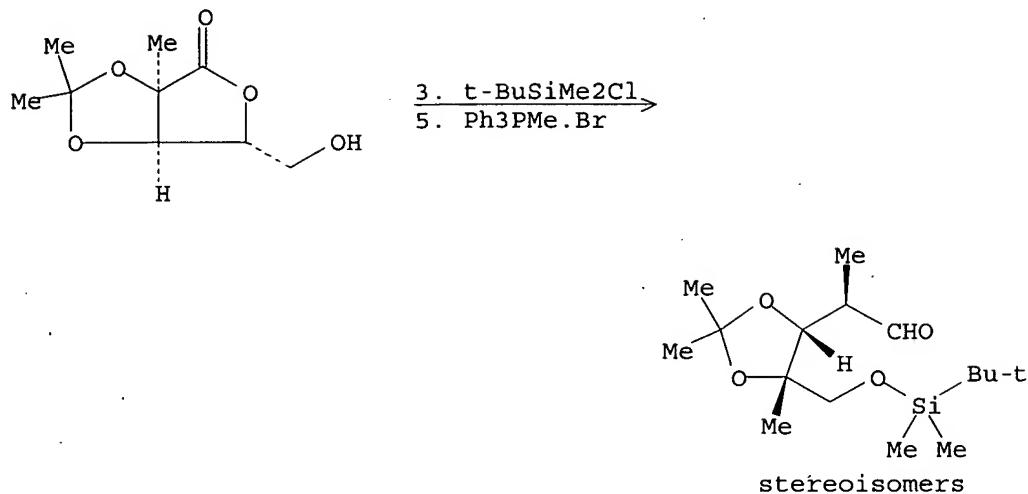
## RX(182) OF 631 - 5 STEPS



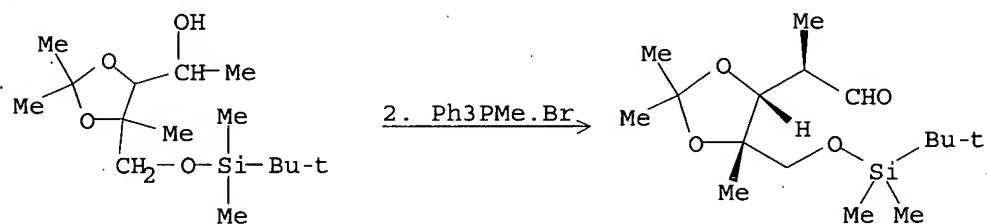
## RX(183) OF 631 - 6 STEPS



## RX(185) OF 631 - 7 STEPS

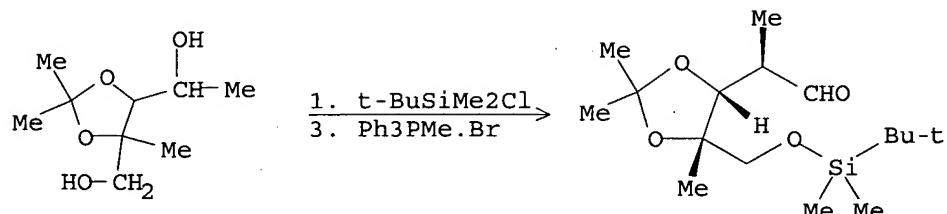


## RX(190) OF 631 - 5 STEPS



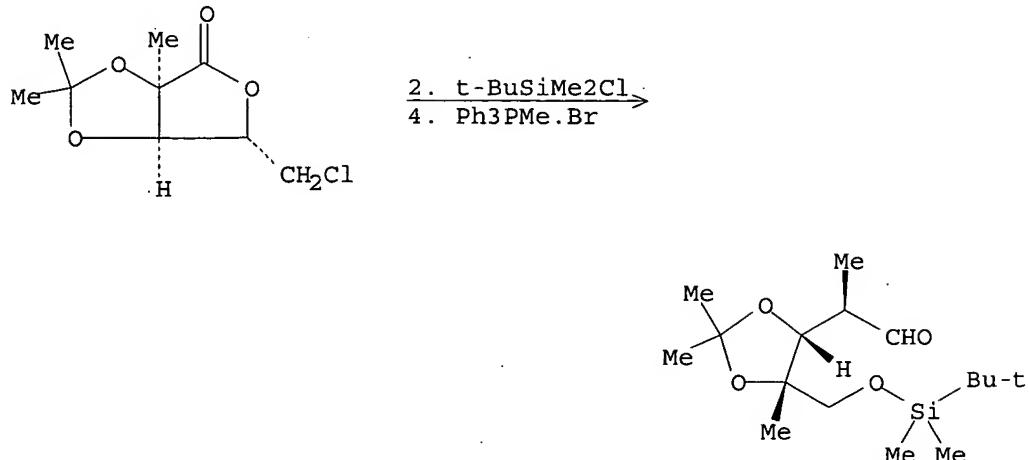
NOTE: 5) silica gel

## RX(194) OF 631 - 6 STEPS



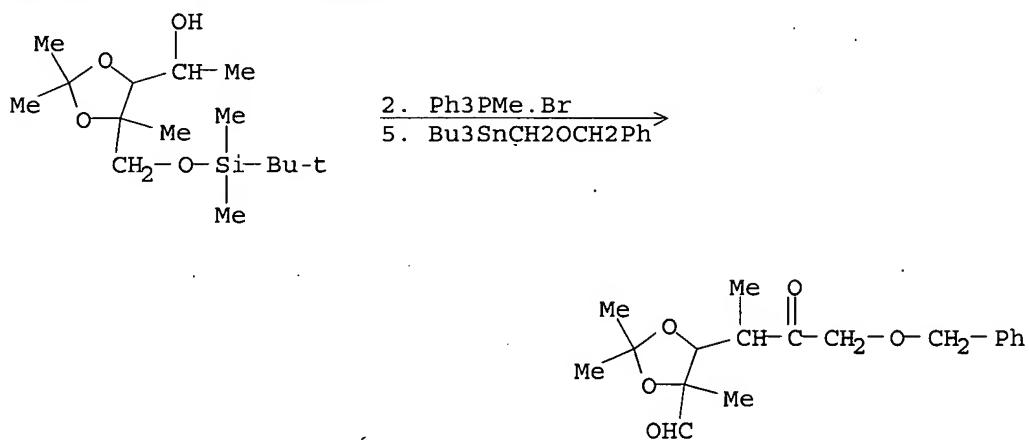
NOTE: 6) silica gel

## RX(198) OF 631 - 7 STEPS

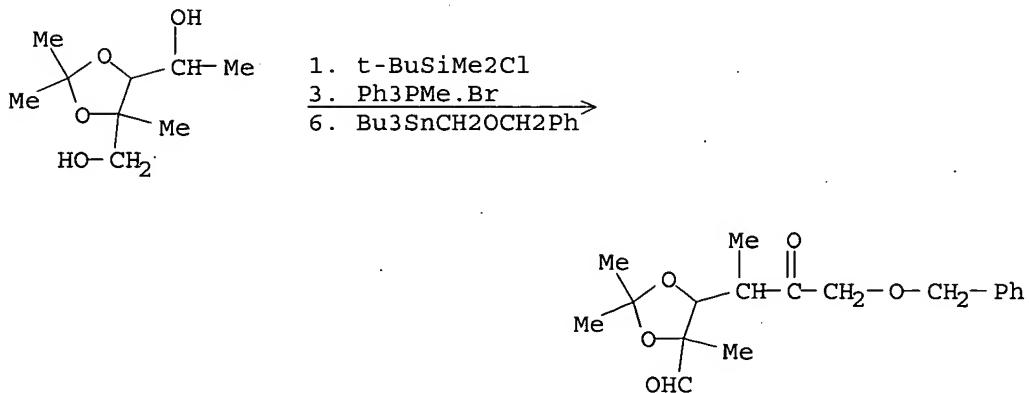


NOTE: 7) silica gel

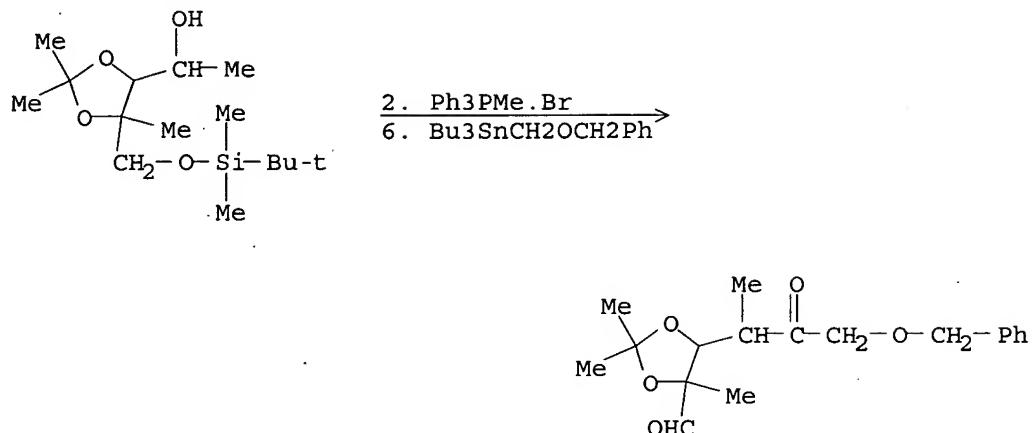
## RX(206) OF 631 - 7 STEPS



## RX(208) OF 631 - 8 STEPS

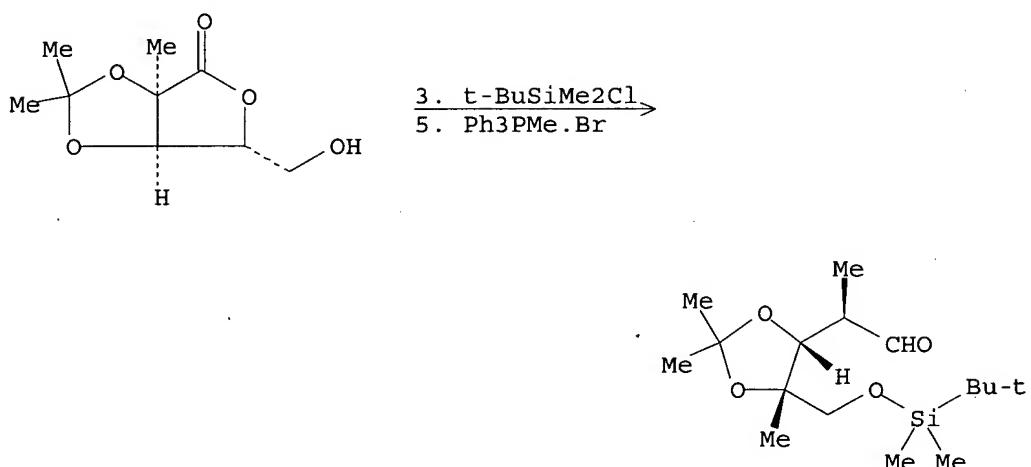


RX(220) OF 631 - 8 STEPS



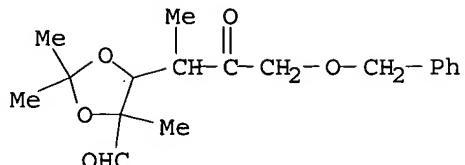
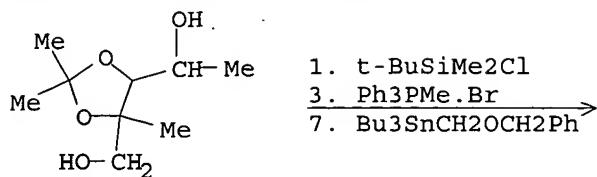
NOTE: 5) silica gel

RX(403) OF 631 - 8 STEPS



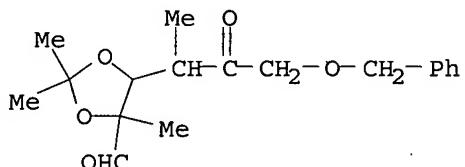
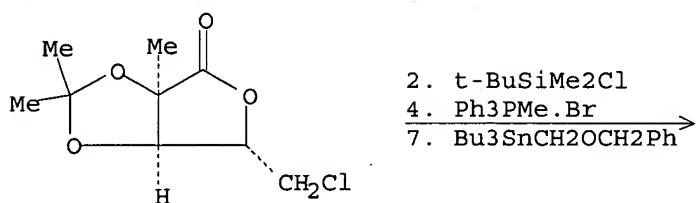
NOTE: 8) silica gel

## RX (417) OF 631 - 9 STEPS

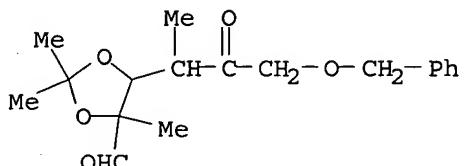
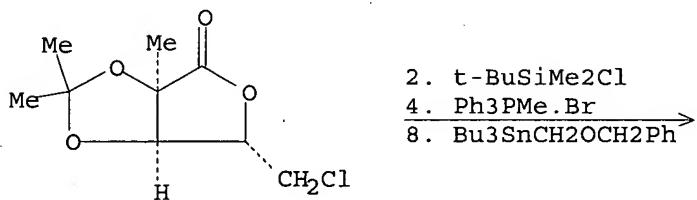


NOTE: 6) silica gel

## RX (419) OF 631 - 9 STEPS

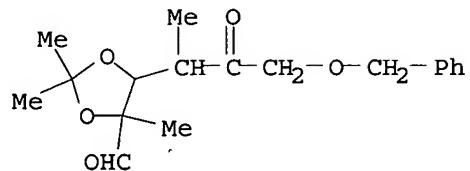
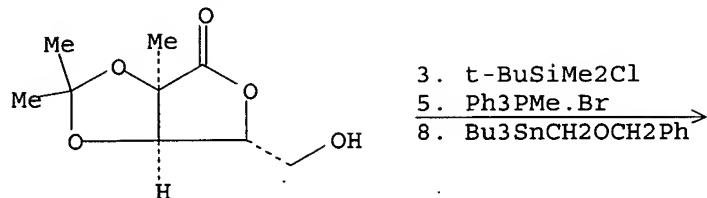


## RX (421) OF 631 - 10 STEPS

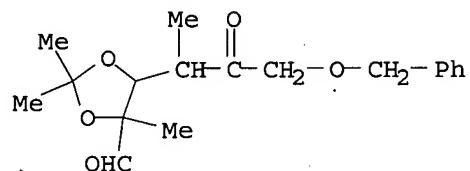
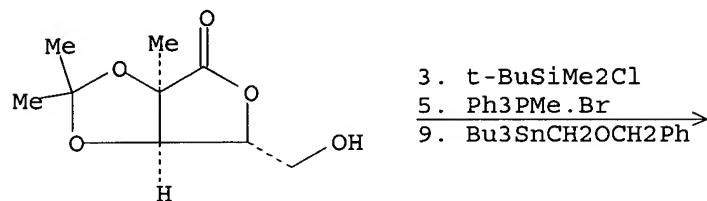


NOTE: 7) silica gel

RX (423) OF 631 - 10 STEPS



RX (425) OF 631 - 11 STEPS



NOTE: 8) silica gel

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 L19 5539 SEA FILE=HCAPLUS ABB=ON PLU=ON SULFOXIDES+PFT,NT/CT(L) (RACT  
 OR RGT OR RCT)/RL  
 L20 172 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 AND L19  
 L21 TRANSFER PLU=ON L20 1- RN : 4787 TERMS  
 L22 4787 SEA FILE=REGISTRY ABB=ON PLU=ON L21  
 L23 STR

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NODE ATTRIBUTES:

NSPEC IS RC AT 1  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

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 L26 895 SEA FILE=HCAPLUS ABB=ON PLU=ON L25(L) (RACT OR RGT OR RCT)/RL  
 L27 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L26 AND L20

=> d 127 ibib abs hitind hitstr 1-5

L27 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2004:353188 HCAPLUS  
 DOCUMENT NUMBER: 140:375069  
 TITLE: Process for making an aldehyde by oxidation of  
 dihalomethyl aromatic compound with a sulfoxide  
 INVENTOR(S): McKew, John C.; Tam, Steven Y.; Lee, Katherine L.;  
 Chen, Lihren; Thakker, Paresh; Sum, Fuk-Wah; Behnke,  
 Mark; Hu, Baihua; Clark, James D.; Li, Wei  
 PATENT ASSIGNEE(S): Wyeth, John, and Brother Ltd., USA  
 SOURCE: U.S. Pat. Appl. Publ., 27 pp., Cont.-in-part of U.S.  
 Pat. Appl. 2003 144,282.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004082785	A1	20040429	US 2003-722782	20031126
US 2003144282	A1	20030731	US 2002-302636	20021122
US 6797708	B2	20040928		
PRIORITY APPLN. INFO.:			US 2001-334588P	P 20011203

US 2002-302636

A2 20021122

OTHER SOURCE(S) :

MARPAT 140:375069

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Disclosed is a process for making an aromatic aldehyde of formula AA-CHO (AA = aryl, alkenyl, alkynyl, in particular 2-indolyl of formula Q; R, R3, R4, R9, R10, X2, n3 are defined below in formula I) in which a sulfoxide is reacted with a dihalogenated aromatic compound of formula AA-CH(X)X (AA = same as above; X = F, Cl, Br, iodo) in the absence of an effective amount of an activating reagent. The aldehyde may then be used to make other compds., such as a compound [I; R = (CH<sub>2</sub>)<sub>n</sub>-A, (CH<sub>2</sub>)<sub>n</sub>-S-A, (CH<sub>2</sub>)<sub>n</sub>-O-A; A = CH(B)D, CH(B)C; D = C<sub>1-6</sub> alkyl or alkoxy, C<sub>3-6</sub> cycloalkyl, CF<sub>3</sub>, (CH<sub>2</sub>)<sub>1-3</sub>-CF<sub>3</sub>; B, C = each (un)substituted Ph, pyridinyl, pyrimidinyl, furanyl, thiophenyl or pyrrolyl; n, n1, n3 = 0-3; X2 = O, CH<sub>2</sub>, S, SO, SO<sub>2</sub>, CO, each (un)substituted NH, NHCO, or NH<sub>2</sub>O<sub>2</sub>, etc.; R3 = H, halogen, cyano, CHO, CF<sub>3</sub>, OCF<sub>3</sub>, OH, C<sub>1-6</sub> alkyl, alkoxy, or alkylthio, (un)substituted NH<sub>2</sub>, NO<sub>2</sub>, etc.; R4 = H, halogen, cyano, CHO, CF<sub>3</sub>, OCF<sub>3</sub>, OH, C<sub>1-6</sub> alkyl, alkoxy, or alkylthio, NH<sub>2</sub>, N(C<sub>1-C6</sub> alkyl)<sub>2</sub>, NH(C<sub>1-C6</sub> alkyl), N-C(O)-(C<sub>1-C6</sub> alkyl), NO<sub>2</sub>, N-C(O)-N(C<sub>1-C3</sub> alkyl)<sub>2</sub>, Ph, benzyl, benzyloxy, morpholino, etc. (each ring optionally substituted); R10 = H, C<sub>1-6</sub> alkyl; R1 = each (un)substituted C<sub>1-6</sub> alkyl, C<sub>1-6</sub> fluorinated alkyl, C<sub>3-6</sub> cycloalkyl, tetrahydropyranyl, camphoryl, adamantyl, cyano, N(C<sub>1-C6</sub> alkyl)<sub>2</sub>, Ph, pyridinyl, pyrimidinyl, furyl, thienyl, naphthyl, morpholinyl, triazolyl, pyrazolyl, piperidinyl, pyrrolidinyl, imidazolyl, piperidinyl, thiazolidinyl, thiomorpholinyl, tetrazole, indole, benzoxazole, benzofuran, imidazolidine-2-thione, 7,7-dimethylbicyclo[2.2.1]heptan-2-one, benzo[1,2,5]oxadiazole, 2-Oxa-5-azabicyclo[2.2.1]heptane, etc.; X1 = chemical bond, S, O, SO, SO<sub>2</sub>, NH, NHCO, C:C, etc.; n2 = 0-4] that acts as a cytoplasmic phospholipase A2 (cPLA<sub>2</sub>) inhibitor. Thus, bromination of 5-chloro-2-methylindole derivative (II; X = Me) by NBS in the presence of benzoyl peroxide in CC<sub>14</sub> under reflux for 3 h gave 2-dibromomethyl-5-chloroindole derivative II (X = CHBr<sub>2</sub>) which was stirred with DMSO at room temperature for 30 min to quant. give 5-chloro-2-formylindole derivative II (X = CHO).

IC ICM C07D215-38

ICS C07D217-12

INCL 544334000; 546169000; 546146000; 546315000; 548194000; 548236000; 548248000; 568316000

CC 27-11 (Heterocyclic Compounds (One Hetero Atom))  
Section cross-reference(s): 1, 7IT **Aldehydes, preparation**

RL: SPN (Synthetic preparation); PREP (Preparation)  
(aromatic; preparation of aromatic aldehydes by oxidation of  $\alpha,\alpha$ -dihaloaryl methanes with sulfoxides and conversion of indolecarboxaldehydes into N-(indolylmethyl)alkanesulfoxamides useful as cytoplasmic phospholipase A2 inhibitors)

IT **Sulfoxides**

RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of aromatic aldehydes by oxidation of  $\alpha,\alpha$ -dihaloaryl methanes with sulfoxides and conversion of indolecarboxaldehydes into N-(indolylmethyl)alkanesulfoxamides useful as cytoplasmic phospholipase A2 inhibitors)

IT 67-68-5, DMSO, reactions 75-52-5, Nitromethane, reactions

98-87-3, (Dichloromethyl)benzene 320-65-0,  
 1-Dichloromethyl-2-fluorobenzene 402-64-2, 1-(Dichloromethyl)-3-fluorobenzene 455-34-5, 1-Dibromomethyl-3-fluorobenzene 618-31-5, (Dibromomethyl)benzene 6425-24-7,  
 1-Dibromomethyl-4-fluorobenzene 26496-95-7, 4-Dibromomethylbenzoic acid ethyl ester 62037-06-3,  
 1-Dibromomethyl-4-chlorobenzene 62247-78-3, 1-Dibromomethyl-3-bromobenzene 70288-97-0, 1-Dibromomethyl-3-chlorobenzene 202264-90-2, 4-Dibromomethylbiphenyl 220141-76-4,  
 1-Dibromomethyl-2-fluorobenzene 683812-78-4,  
 1-Dibromomethyl-4-ethylbenzene

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of aromatic aldehydes by oxidation of  $\alpha,\alpha$ -dihaloaryl methanes with sulfoxides and conversion of indolecarboxaldehydes into N-(indolylmethyl)alkanesulfoxamides useful as cytoplasmic phospholipase A2 inhibitors)

IT 4025-75-6P, (4-Nitrophenyl)methanesulfonyl chloride 4352-30-1P,  
 Cyclohexylmethanesulfonyl chloride 24974-73-0P, (3-Chlorophenyl)methanesulfonyl chloride 58032-84-1P, (3-Nitrophenyl)methanesulfonyl chloride 85952-31-4P, (2,6-Dichlorophenyl)methanesulfonyl chloride 92614-55-6P,  
 (2-Methylphenyl)methanesulfonyl chloride 93749-47-4P,  
 4-(2,2-Diethoxyethoxy)benzoic acid methyl ester 161448-78-8P,  
 (2-Naphthyl)methanesulfonyl chloride 163295-70-3P, (3,5-Dichlorophenyl)methanesulfonyl chloride 163295-71-4P,  
 (2,5-Dichlorophenyl)methanesulfonyl chloride 163295-74-7P,  
 (3,5-Difluorophenyl)methanesulfonyl chloride 163295-76-9P,  
 (3-Methoxyphenyl)methanesulfonyl chloride 174961-63-8P, Methyl 3-[(chlorosulfonyl)methyl]benzoate 179524-60-8P, (2,6-Difluorophenyl)methanesulfonyl chloride 352708-56-6P,  
 (3,5-Dimethylphenyl)methanesulfonyl chloride 479422-23-6P,  
 4-[2-(5-Chloro-2-methylindol-3-yl)ethoxy]benzoic acid methyl ester 479422-24-7P, 4-[2-(1-Benzhydryl-5-chloro-2-methyl-1H-indol-3-yl)ethoxy]benzoic acid methyl ester 479422-26-9P, 4-[2-(1-Benzhydryl-5-chloro-2-formyl-1H-indol-3-yl)ethoxy]benzoic acid methyl ester 540522-70-1P, 4-[3-[2-(2-Aminoethyl)-1-benzhydryl-5-chloro-1H-indol-3-yl]propyl]benzoic acid methyl ester 540523-00-0P, Methyl 4-[2-[1-benzhydryl-5-chloro-2-[2-[(2-nitrobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoate 540523-96-4P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(ethenylsulfonyl)amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 540524-67-2P, (2,6-Dimethylphenyl)methanesulfonyl chloride 683812-85-3P, 4-[2-[1-Benzhydryl-5-chloro-2-(2-nitroethenyl)-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-86-4P, 4-[2-[1-Benzhydryl-2-[2-[(benzylsulfonyl)amino]ethyl]-5-chloro-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-87-5P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(isopropylsulfonyl)amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-88-6P, 4-[2-[1-Benzhydryl-2-[2-[(butylsulfonyl)amino]ethyl]-5-chloro-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-89-7P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(1-methyl-1H-imidazol-4-yl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-90-0P, 4-[2-[1-Benzhydryl-2-[2-[(5-bromo-6-chloro-3-pyridinyl)sulfonyl]amino]ethyl]-5-chloro-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-91-1P 683812-92-2P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[[[(methylsulfonyl)methyl]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-93-3P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[[2-(1-naphthyl)ethyl]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-94-4P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(3,4-dichlorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-95-5P, 4-[2-[1-Benzhydryl-5-

chloro-2-[2-[(3,5-dichlorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-96-6P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[[3-(trifluoromethyl)benzyl]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-97-7P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[[4-(trifluoromethyl)benzyl]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-98-8P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[[4-fluorobenzyl]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683812-99-9P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[[4-chlorobenzyl]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-00-5P, 2-[2-[(2-Aminobenzyl)sulfonyl]amino]ethyl]-4-[2-(1-benzhydryl-5-chloro-1H-indol-3-yl)ethoxy]benzoic acid methyl ester 683813-01-6P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[[dimethylamino]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-02-7P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(2-naphthylmethyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-03-8P, 3-[[2-[1-Benzhydryl-3-[2-(4-methoxycarbonylphenoxy)ethyl]-5-chloro-1H-indol-2-yl]ethyl]amino]sulfonyl]methyl]benzoic acid methyl ester 683813-04-9P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(E)-2-phenylethenyl]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-05-0P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[[trifluoromethyl]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-06-1P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(cyclopropylsulfonyl)amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-07-2P, 4-[2-[1-Benzhydryl-2-[2-[[3,5-bis(trifluoromethyl)benzyl]sulfonyl]amino]ethyl]-5-chloro-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-08-3P, 2-[[2-[1-Benzhydryl-3-[2-(4-methoxycarbonylphenoxy)ethyl]-5-chloro-1H-indol-2-yl]ethyl]amino]sulfonyl]benzoic acid methyl ester 683813-09-4P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-(2-naphthylsulfonyl)amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-10-7P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(3,5-dichlorophenyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-11-8P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(3,4-dichlorophenyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-12-9P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(2,3-dichlorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-13-0P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(2,4-dichlorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-14-1P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(4-chloro-2-nitrobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-15-2P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(2-cyanobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-16-3P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(3,5-difluorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-17-4P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(3-cyanobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-18-5P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(4-cyanobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-19-6P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(4-(1-piperidinylsulfonyl)benzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-20-9P, 4-[2-[2-[2-[[4-(Aminosulfonyl)benzyl]sulfonyl]amino]ethyl]-1-benzhydryl-5-chloro-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-21-0P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[[4-(methanesulfonyl)phenyl]methyl]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-22-1P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[[4-(diethylsulfamoyl)phenyl]methyl]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-23-2P, 4-[3-(5-Chloro-2-methyl-1H-indol-3-yl)propyl]benzoic acid methyl ester 683813-24-3P, 4-[3-(1-Benzhydryl-5-chloro-2-methyl-1H-indol-3-yl)ethoxy]benzoic acid methyl ester

3-yl]propyl]benzoic acid methyl ester 683813-25-4P, 4-[3-(1-Benzhydryl-5-chloro-2-formyl-1H-indol-3-yl)propyl]benzoic acid methyl ester  
 683813-26-5P, 4-[3-[1-Benzhydryl-5-chloro-2-(2-nitroethenyl)-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-27-6P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(phenylmethyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-28-7P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(3,5-dichlorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-29-8P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(3,4-dichlorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-30-1P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(methylsulfonyl)amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-31-2P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(phenylsulfonyl)amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-32-3P, 2-[[2-[[2-[[1-Benzhydryl-3-[2-(4-methoxycarbonylphenoxy)ethyl]-5-chloro-1H-indol-2-yl]ethyl]amino]sulfonyl]ethyl]amino]carbonyl]benzoic acid methyl ester 683813-33-4P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(3-pyridinylmethyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-34-5P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(4-pyridinylmethyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-35-6P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(2-pyridinylmethyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-36-7P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(2,6-dimethylbenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-37-8P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(cyclohexylmethyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-38-9P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(4-nitrobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-39-0P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(3-nitrobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-40-3P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(2-nitrobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-41-4P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(4-fluorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-42-5P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(4-(trifluoromethyl)benzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-43-6P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(3-(trifluoromethyl)benzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-44-7P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(4-chlorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-45-8P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(2-pyridinylmethyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-46-9P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(3-pyridinylmethyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-47-0P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(4-pyridinylmethyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-48-1P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(2-chlorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-49-2P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(3-nitrobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-50-5P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(3-chlorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-51-6P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(2,5-dichlorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-52-7P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(3-methoxybenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-53-8P, 4-[3-[2-[2-[(2-Aminobenzyl)sulfonyl]amino]ethyl]-1-benzhydryl-5-chloro-1H-indol-3-yl]propyl]benzoic acid methyl ester 683813-54-9P, 4-[3-[1-Benzhydryl-5-chloro-2-[2-[(2-

methylbenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]propyl]benzoic acid  
 methyl ester 683813-55-0P, [4-(Trifluoromethoxy)phenyl]methanesulfonyl  
 chloride 683813-56-1P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(4-  
 trifluoromethoxybenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic  
 acid methyl ester 683813-57-2P, (4-Fluoro-6-nitrophenyl)methanesulfonyl  
 chloride 683813-58-3P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(2-fluoro-6-  
 nitrobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl  
 ester 683813-59-4P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(2,6-  
 difluorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid  
 methyl ester 683813-60-7P, (6-Chloro-3-pyridyl)methanesulfonyl chloride  
 683813-61-8P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(6-chloro-3-  
 pyridinyl)methyl]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid  
 methyl ester 683813-62-9P, (5,6-Dichloro-3-pyridyl)methanesulfonyl  
 chloride 683813-63-0P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(5,6-dichloro-  
 3-pyridinyl)methyl]sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid  
 methyl ester 683813-64-1P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(3-  
 methoxybenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid  
 methyl ester 683813-65-2P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(3,5-  
 dimethylbenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid  
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 methylbenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid  
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 dichlorobenzyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid  
 methyl ester 683813-68-5P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-  
 [(phenylsulfanyl)methyl]sulfonyl]amino]ethyl]-1H-indol-3-  
 yl]ethoxy]benzoic acid methyl ester 683813-69-6P, 4-[2-[1-Benzhydryl-5-  
 chloro-2-[2-[(2,6-dimethylphenyl)sulfanyl]methyl]sulfonyl]amino]ethyl]-  
 1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-70-9P,  
 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(2-methoxyphenyl)sulfanyl]methyl]sulf-  
 onyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester  
 683813-71-0P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(2-chloro-6-  
 methylphenyl)sulfanyl]methyl]sulfonyl]amino]ethyl]-1H-indol-3-  
 yl]ethoxy]benzoic acid methyl ester 683813-72-1P, 4-[2-[1-Benzhydryl-5-  
 chloro-2-[2-[(3,5-dichlorophenyl)sulfanyl]methyl]sulfonyl]amino]ethyl]-  
 1H-indol-3-yl]ethoxy]benzoic acid methyl ester 683813-73-2P,  
 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(3,4-dimethoxyphenyl)sulfanyl]methyl]sulf-  
 onyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl ester  
 683813-74-3P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(2-(pyrazol-1-  
 yl)ethyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl  
 ester 683813-75-4P, 4-[2-(1-Benzhydryl-5-chloro-2-  
 (dibromomethyl)-1H-indol-3-yl]ethoxy]benzoic acid methyl ester  
 683813-76-5P, 4-[2-[1-Benzhydryl-5-chloro-2-[2-[(2-(morpholin-4-  
 yl)ethyl)sulfonyl]amino]ethyl]-1H-indol-3-yl]ethoxy]benzoic acid methyl  
 ester

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(preparation of aromatic aldehydes by oxidation of  $\alpha, \alpha$ -  
 dihaloaryl methanes with sulfoxides and conversion of  
 indolecarboxaldehydes into N-(indolylmethyl)alkanesulfoxamides useful  
 as cytoplasmic phospholipase A2 inhibitors)

IT 100-52-7P, Benzaldehyde, preparation 104-88-1P,  
 4-Chlorobenzaldehyde, preparation 446-52-6P,  
 2-Fluorobenzaldehyde 456-48-4P, 3-Fluorobenzaldehyde  
 459-57-4P, 4-Fluorobenzaldehyde 587-04-2P,  
 3-Chlorobenzaldehyde 3132-99-8P, 3-Bromobenzaldehyde  
 3218-36-8P, 4-Biphenylcarboxaldehyde 4748-78-1P,  
 4-Ethylbenzaldehyde 6287-86-1P, 4-Formylbenzoic acid ethyl ester

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of aromatic aldehydes by oxidation of  $\alpha, \alpha$ -

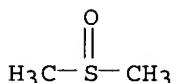
dihaloarylmethanes with sulfoxides and conversion of indolecarboxaldehydes into N-(indolylmethyl)alkanesulfoxamides useful as cytoplasmic phospholipase A2 inhibitors)

IT 67-68-5, DMSO, reactions 98-87-3,  
 (Dichloromethyl)benzene 320-65-0, 1-Dichloromethyl-2-fluorobenzene 402-64-2, 1-(Dichloromethyl)-3-fluorobenzene 455-34-5, 1-Dibromomethyl-3-fluorobenzene 618-31-5, (Dibromomethyl)benzene 6425-24-7, 1-Dibromomethyl-4-fluorobenzene 26496-95-7, 4-Dibromomethylbenzoic acid ethyl ester 62037-06-3, 1-Dibromomethyl-4-chlorobenzene 62247-78-3, 1-Dibromomethyl-3-bromobenzene 70288-97-0, 1-Dibromomethyl-3-chlorobenzene 202264-90-2, 4-Dibromomethylbiphenyl 220141-76-4, 1-Dibromomethyl-2-fluorobenzene 683812-78-4, 1-Dibromomethyl-4-ethylbenzene

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of aromatic aldehydes by oxidation of  $\alpha,\alpha$ -dihaloarylmethanes with sulfoxides and conversion of indolecarboxaldehydes into N-(indolylmethyl)alkanesulfoxamides useful as cytoplasmic phospholipase A2 inhibitors)

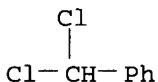
RN 67-68-5 HCPLUS

CN Methane, sulfinylbis- (9CI) (CA INDEX NAME)



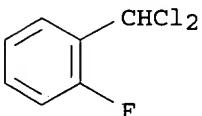
RN 98-87-3 HCPLUS

CN Benzene, (dichloromethyl)- (9CI) (CA INDEX NAME)



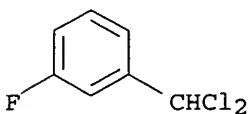
RN 320-65-0 HCPLUS

CN Benzene, 1-(dichloromethyl)-2-fluoro- (9CI) (CA INDEX NAME)



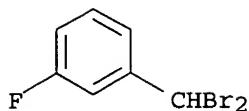
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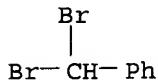


RN 455-34-5 HCPLUS

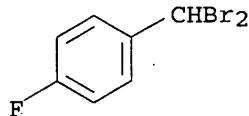
CN Benzene, 1-(dibromomethyl)-3-fluoro- (9CI) (CA INDEX NAME)



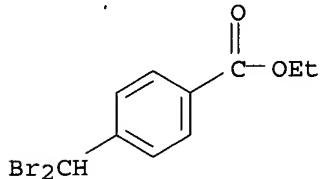
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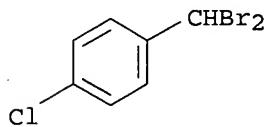
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 CN Benzene, 1-(dibromomethyl)-4-fluoro- (9CI) (CA INDEX NAME)



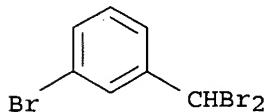
RN 26496-95-7 HCAPLUS  
 CN Benzoic acid, 4-(dibromomethyl)-, ethyl ester (9CI) (CA INDEX NAME)



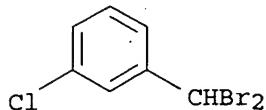
RN 62037-06-3 HCAPLUS  
 CN Benzene, 1-chloro-4-(dibromomethyl)- (9CI) (CA INDEX NAME)



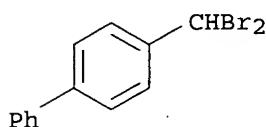
RN 62247-78-3 HCAPLUS  
 CN Benzene, 1-bromo-3-(dibromomethyl)- (9CI) (CA INDEX NAME)



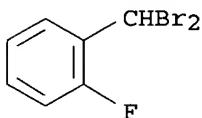
RN 70288-97-0 HCAPLUS  
 CN Benzene, 1-chloro-3-(dibromomethyl)- (9CI) (CA INDEX NAME)



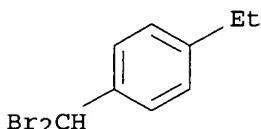
RN 202264-90-2 HCAPLUS  
 CN 1,1'-Biphenyl, 4-(dibromomethyl)- (9CI) (CA INDEX NAME)



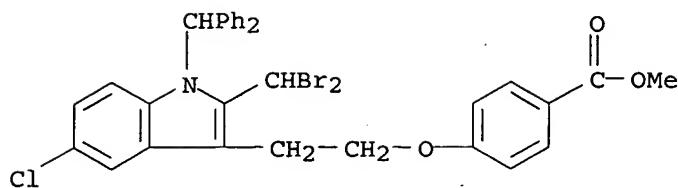
RN 220141-76-4 HCAPLUS  
 CN Benzene, 1-(dibromomethyl)-2-fluoro- (9CI) (CA INDEX NAME)



RN 683812-78-4 HCAPLUS  
 CN Benzene, 1-(dibromomethyl)-4-ethyl- (9CI) (CA INDEX NAME)



IT 683813-75-4P, 4-[2-(1-Benzhydryl-5-chloro-2-(dibromomethyl)-1H-indol-3-yl)ethoxy]benzoic acid methyl ester  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of aromatic aldehydes by oxidation of  $\alpha,\alpha$ -dihaloaryl methanes with sulfoxides and conversion of indolecarboxaldehydes into N-(indolylmethyl) alkanesulfoxamides useful as cytoplasmic phospholipase A2 inhibitors)  
 RN 683813-75-4 HCAPLUS  
 CN Benzoic acid, 4-[2-[5-chloro-2-(dibromomethyl)-1-(diphenylmethyl)-1H-indol-3-yl]ethoxy]-, methyl ester (9CI) (CA INDEX NAME)

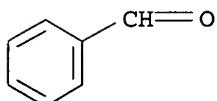


IT 100-52-7P, Benzaldehyde, preparation 104-88-1P,  
 4-Chlorobenzaldehyde, preparation 446-52-6P,  
 2-Fluorobenzaldehyde 456-48-4P, 3-Fluorobenzaldehyde  
 459-57-4P, 4-Fluorobenzaldehyde 587-04-2P,  
 3-Chlorobenzaldehyde 3132-99-8P, 3-Bromobenzaldehyde  
 3218-36-8P, 4-Biphenylcarboxaldehyde

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of aromatic aldehydes by oxidation of  $\alpha,\alpha$ -  
 dihaloaryl methanes with sulfoxides and conversion of  
 indolecarboxaldehydes into N-(indolylmethyl)alkanesulfoxamides useful  
 as cytoplasmic phospholipase A2 inhibitors)

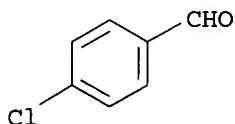
RN 100-52-7 HCAPLUS

CN Benzaldehyde (7CI, 8CI, 9CI) (CA INDEX NAME)



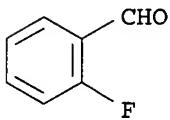
RN 104-88-1 HCAPLUS

CN Benzaldehyde, 4-chloro- (9CI) (CA INDEX NAME)



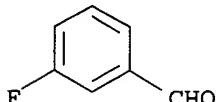
RN 446-52-6 HCAPLUS

CN Benzaldehyde, 2-fluoro- (9CI) (CA INDEX NAME)

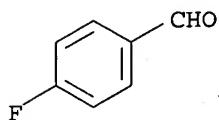


RN 456-48-4 HCAPLUS

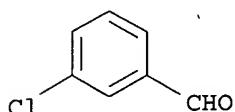
CN Benzaldehyde, 3-fluoro- (9CI) (CA INDEX NAME)



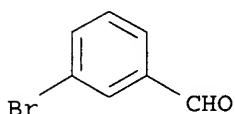
RN 459-57-4 HCAPLUS  
 CN Benzaldehyde, 4-fluoro- (9CI) (CA INDEX NAME)



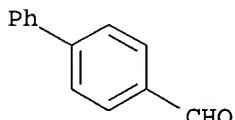
RN 587-04-2 HCAPLUS  
 CN Benzaldehyde, 3-chloro- (9CI) (CA INDEX NAME)



RN 3132-99-8 HCAPLUS  
 CN Benzaldehyde, 3-bromo- (9CI) (CA INDEX NAME)



RN 3218-36-8 HCAPLUS  
 CN [1,1'-Biphenyl]-4-carboxaldehyde (9CI) (CA INDEX NAME)



L27 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2004:40052 HCAPLUS  
 DOCUMENT NUMBER: 140:423430  
 TITLE: Oxygen transfer from sulfoxide. Formation of aromatic aldehydes from dihalomethylarenes  
 AUTHOR(S): Li, Wei; Li, Jianchang; DeVincentis, Dianne; Mansour, Tarek S.  
 CORPORATE SOURCE: Chemical and Screening Sciences, Wyeth Research, Cambridge, MA, 02140, USA  
 SOURCE: Tetrahedron Letters (2004), 45(5), 1071-1074  
 CODEN: TELEAY; ISSN: 0040-4039  
 PUBLISHER: Elsevier Science B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The conversion of dihalomethylarenes to the corresponding aldehydes is accomplished conveniently by using sulfoxides as the oxygen donor under neutral conditions.

CC 25-15 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

IT **Aldehydes, preparation**

RL: SPN (Synthetic preparation); PREP (Preparation)

(aromatic; preparation of aromatic aldehydes from dihalomethylarenes by oxygen

transfer from sulfoxide)

IT 67-68-5, DMSO, reactions 98-87-3, Benzal chloride

320-65-0, o-Fluorobenzal chloride 402-64-2,

m-Fluorobenzal chloride 455-34-5, 3-Fluorobenzal bromide

535-15-9, Ethyl dichloroacetate 618-31-5, Benzal bromide

2648-61-5, 2,2-Dichloroacetophenone 6425-24-7

26496-95-7, Ethyl 4-dibromomethylbenzoate 30263-65-1

62037-06-3, 4-Chlorobenzal bromide 62247-78-3,

3-Bromobenzal bromide 70288-97-0, 3-Chlorobenzal bromide

202264-90-2 220141-76-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of aromatic aldehydes from dihalomethylarenes by oxygen transfer

from sulfoxide)

IT 100-52-7P, Benzaldehyde, preparation 104-88-1P,

p-Chlorobenzaldehyde, preparation 446-52-6P,

o-Fluorobenzaldehyde 456-48-4P, m-Fluorobenzaldehyde

459-57-4P, p-Fluorobenzaldehyde 587-04-2P,

3-Chlorobenzaldehyde 924-44-7P 1074-12-0P

3132-99-8P, m-Bromobenzaldehyde 3218-36-8P,

p-Biphenylaldehyde 4480-47-1P 6287-86-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of aromatic aldehydes from dihalomethylarenes by oxygen transfer

from sulfoxide)

IT 67-68-5, DMSO, reactions 98-87-3, Benzal chloride

320-65-0, o-Fluorobenzal chloride 402-64-2,

m-Fluorobenzal chloride 455-34-5, 3-Fluorobenzal bromide

535-15-9, Ethyl dichloroacetate 618-31-5, Benzal bromide

2648-61-5, 2,2-Dichloroacetophenone 6425-24-7

26496-95-7, Ethyl 4-dibromomethylbenzoate 30263-65-1

62037-06-3, 4-Chlorobenzal bromide 62247-78-3,

3-Bromobenzal bromide 70288-97-0, 3-Chlorobenzal bromide

202264-90-2 220141-76-4

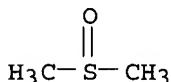
RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of aromatic aldehydes from dihalomethylarenes by oxygen transfer

from sulfoxide)

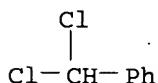
RN 67-68-5 HCAPLUS

CN Methane, sulfinylbis- (9CI) (CA INDEX NAME)

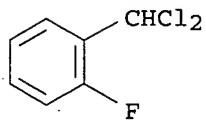


RN 98-87-3 HCAPLUS

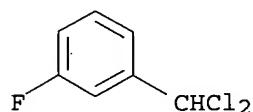
CN Benzene, (dichloromethyl)- (9CI) (CA INDEX NAME)



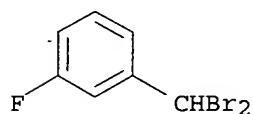
RN 320-65-0 HCAPLUS  
 CN Benzene, 1-(dichloromethyl)-2-fluoro- (9CI) (CA INDEX NAME)



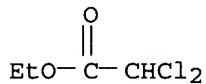
RN 402-64-2 HCAPLUS  
 CN Benzene, 1-(dichloromethyl)-3-fluoro- (9CI) (CA INDEX NAME)



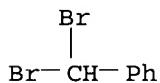
RN 455-34-5 HCAPLUS  
 CN Benzene, 1-(dibromomethyl)-3-fluoro- (9CI) (CA INDEX NAME)



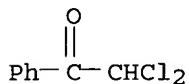
RN 535-15-9 HCAPLUS  
 CN Acetic acid, dichloro-, ethyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



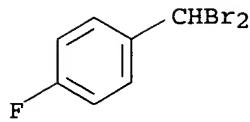
RN 618-31-5 HCAPLUS  
 CN Benzene, (dibromomethyl)- (9CI) (CA INDEX NAME)



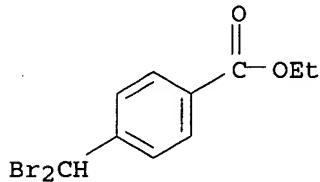
RN 2648-61-5 HCAPLUS  
 CN Ethanone, 2,2-dichloro-1-phenyl- (9CI) (CA INDEX NAME)



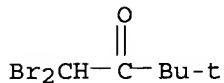
RN 6425-24-7 HCAPLUS  
 CN Benzene, 1-(dibromomethyl)-4-fluoro- (9CI) (CA INDEX NAME)



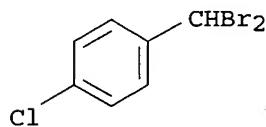
RN 26496-95-7 HCAPLUS  
 CN Benzoic acid, 4-(dibromomethyl)-, ethyl ester (9CI) (CA INDEX NAME)



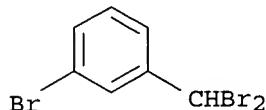
RN 30263-65-1 HCAPLUS  
 CN 2-Butanone, 1,1-dibromo-3,3-dimethyl- (8CI, 9CI) (CA INDEX NAME)



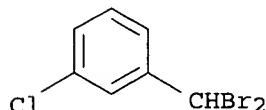
RN 62037-06-3 HCAPLUS  
 CN Benzene, 1-chloro-4-(dibromomethyl)- (9CI) (CA INDEX NAME)



RN 62247-78-3 HCAPLUS  
 CN Benzene, 1-bromo-3-(dibromomethyl)- (9CI) (CA INDEX NAME)

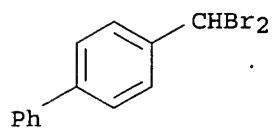


RN 70288-97-0 HCAPLUS  
 CN Benzene, 1-chloro-3-(dibromomethyl)- (9CI) (CA INDEX NAME)



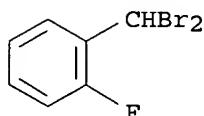
RN 202264-90-2 HCAPLUS

CN 1,1'-Biphenyl, 4-(dibromomethyl)- (9CI) (CA INDEX NAME)



RN 220141-76-4 HCAPLUS

CN Benzene, 1-(dibromomethyl)-2-fluoro- (9CI) (CA INDEX NAME)



IT 100-52-7P, Benzaldehyde, preparation 104-88-1P,

p-Chlorobenzaldehyde, preparation 446-52-6P,

o-Fluorobenzaldehyde 456-48-4P, m-Fluorobenzaldehyde

459-57-4P, p-Fluorobenzaldehyde 587-04-2P,

3-Chlorobenzaldehyde 924-44-7P 1074-12-0P

3132-99-8P, m-Bromobenzaldehyde 3218-36-8P,

p-Biphenylaldehyde

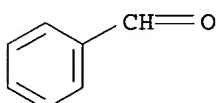
RL: SPN (Synthetic preparation); PREP (Preparation)

preparation of aromatic aldehydes from dihalomethylarenes by oxygen transfer

from sulfoxide)

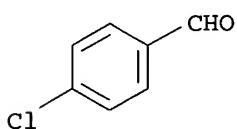
RN 100-52-7 HCAPLUS.

CN Benzaldehyde (7CI, 8CI, 9CI) (CA INDEX NAME)



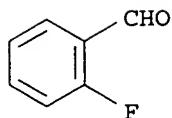
RN 104-88-1 HCAPLUS

CN Benzaldehyde, 4-chloro- (9CI) (CA INDEX NAME)

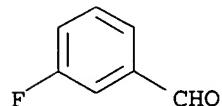


RN 446-52-6 HCAPLUS

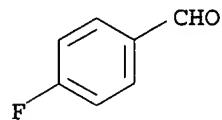
CN Benzaldehyde, 2-fluoro- (9CI) (CA INDEX NAME)



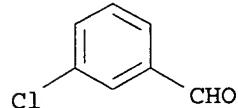
RN 456-48-4 HCAPLUS  
 CN Benzaldehyde, 3-fluoro- (9CI) (CA INDEX NAME)



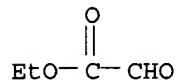
RN 459-57-4 HCAPLUS  
 CN Benzaldehyde, 4-fluoro- (9CI) (CA INDEX NAME)



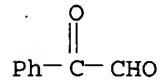
RN 587-04-2 HCAPLUS  
 CN Benzaldehyde, 3-chloro- (9CI) (CA INDEX NAME)



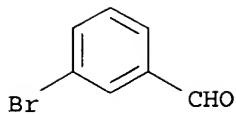
RN 924-44-7 HCAPLUS  
 CN Acetic acid, oxo-, ethyl ester (9CI) (CA INDEX NAME)



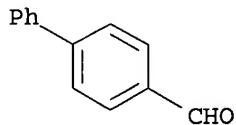
RN 1074-12-0 HCAPLUS  
 CN Benzeneacetaldehyde,  $\alpha$ -oxo- (9CI) (CA INDEX NAME)



RN 3132-99-8 HCAPLUS  
 CN Benzaldehyde, 3-bromo- (9CI) (CA INDEX NAME)

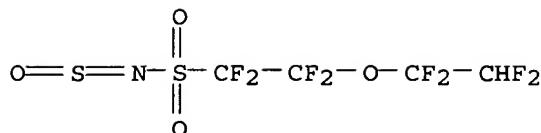


RN 3218-36-8 HCPLUS  
 CN [1,1'-Biphenyl]-4-carboxaldehyde (9CI) (CA INDEX NAME)

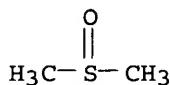


REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

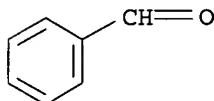
L27 ANSWER 3 OF 5 HCPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1991:513736 HCPLUS  
 DOCUMENT NUMBER: 115:113736  
 TITLE: Condensation reaction of N-sulfinylperfluoroalkanesulfonamides  
 AUTHOR(S): Zhu, Shizheng; Chen, Qingyun  
 CORPORATE SOURCE: Shanghai Inst. Org. Chem., Acad. Sin., Shanghai, 200032, Peop. Rep. China  
 SOURCE: Journal of the Chemical Society, Chemical Communications (1991), (10), 732-3  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 115:113736  
 AB N-Sulfinylperfluoroalkanesulfonamides, RfSO<sub>2</sub>NSO, which are prepared by refluxing perfluoroalkanesulfonamides with SOCl<sub>2</sub>, react easily with aldehydes, ketones, sulfoxides, and POCl<sub>3</sub> to yield a series of new compds. RfSO<sub>2</sub>N:Y [Y = PhCH, cyclohexylidene, R<sub>1</sub>R<sub>2</sub>S [R<sub>1</sub> = R<sub>2</sub> = Me; R<sub>1</sub>R<sub>2</sub> = (CH<sub>2</sub>)<sub>4</sub>; PCl<sub>3</sub>] with elimination of SO<sub>2</sub>.  
 CC 21-2 (General Organic Chemistry)  
 IT 135705-80-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (condensation reaction of, with carbonyl compds., sulfoxides, or phosphorus oxychloride)  
 IT 67-68-5P, Dimethyl sulfoxide, preparation 100-52-7P, Benzaldehyde, reactions 108-93-0P, Cyclohexanol, reactions 1600-44-8P 10025-87-3P, Phosphorus oxychloride  
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (condensation reaction of, with N-sulfinylperfluoroalkenesulfonamide)  
 IT 135705-80-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (condensation reaction of, with carbonyl compds., sulfoxides, or phosphorus oxychloride)  
 RN 135705-80-5 HCPLUS  
 CN Ethanesulfonamide, 1,1,2,2-tetrafluoro-N-sulfinyl-2-(1,1,2,2-tetrafluoroethoxy)- (9CI) (CA INDEX NAME)



IT 67-68-5P, Dimethyl sulfoxide, preparation 100-52-7P,  
Benzaldehyde, reactions  
RL: RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(condensation reaction of, with N-sulfinylperfluoroalkenesulfonamide)  
RN 67-68-5 HCAPLUS  
CN Methane, sulfinylbis- (9CI) (CA INDEX NAME)



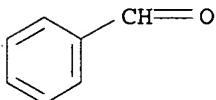
RN 100-52-7 HCAPLUS  
CN Benzaldehyde (7CI, 8CI, 9CI) (CA INDEX NAME)



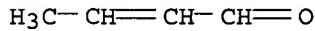
L27 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1990:35271 HCAPLUS  
DOCUMENT NUMBER: 112:35271  
TITLE: Generation and reactions of novel copper carbenoids through a stoichiometric reaction of copper metal with gem-dichlorides in dimethyl sulfoxide  
AUTHOR(S): Tezuka, Yasuyuki; Hashimoto, Akio; Ushizaka, Koh; Imai, Kiyokazu  
CORPORATE SOURCE: Dep. Mater. Sci. Technol., Nagaoka Univ. Technol., Nagaoka, 940-21, Japan  
SOURCE: Journal of Organic Chemistry (1990), 55(1), 329-33  
CODEN: JOCEAH; ISSN: 0022-3263  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 112:35271  
AB Copper metal and such gem-dichlorides as  $\alpha,\alpha$ -dichloro acid esters  $\text{X}_2\text{CRCO}_2\text{R}_1$  (I; X = Cl, Br; R = H, Me; R1 = alkyl, Ph),  $\text{Ph}_2\text{Cl}_2$  (II),  $\text{PhCHCl}_2$  (III),  $\text{MeCOCHCl}_2$  (IV),  $\text{MeCH:CHCHCl}_2$  (V), and  $\text{CCl}_4$  (VI) were found to undergo a stoichiometric reaction in DMSO under mild conditions to produce copper carbenoid intermediates via  $\alpha,\alpha$ -elimination of dichlorides, along with the formation of  $\text{CuCl}_2(\text{DMSO})_2$ . Thus, I and II gave substituted olefins via a carbenoid coupling reaction. From V and VI, reaction products were produced via oxygen abstraction from DMSO, together with  $\text{Me}_2\text{S}$ ; III and IV were found to cause both types of reactions. The carbenoid intermediate formed from I did not cause cyclopropanation reaction with cyclohexene in contrast to the conventional carbalkoxy carbenoid generated by a decomposition reaction of ethyl

diazoacetate. Also, the carbenoid coupling reaction was completely inhibited by the addition of triphenylphosphine, which contrasts to the formation of phosphonium ylide with a carbenoid from Et diazoacetate.

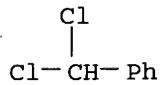
CC 23-17 (Aliphatic Compounds)  
 IT 100-52-7P, Benzaldehyde, preparation  
 RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, in reaction of benzal chloride with copper metal)  
 IT 4170-30-3P, 2-Butenal  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, by reaction of dichlorobutene with copper metal)  
 IT 56-23-5, Carbon tetrachloride, reactions 98-87-3, Benzal  
 chloride 116-54-1 513-88-2 535-15-9  
 2051-90-3, Dichlorodiphenyl methane 6482-26-4, Methyl  
 dibromoacetate 10565-20-5 17640-03-8 49653-47-6  
 56800-09-0, 1,1-Dichloro-2-butene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with copper metal)  
 IT 67-68-5, DMSO, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (solvent, for reaction of copper metal with gem-dichlorides)  
 IT 100-52-7P, Benzaldehyde, preparation  
 RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, in reaction of benzal chloride with copper metal)  
 RN 100-52-7 HCPLUS  
 CN Benzaldehyde (7CI, 8CI, 9CI) (CA INDEX NAME)



IT 4170-30-3P, 2-Butenal  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, by reaction of dichlorobutene with copper metal)  
 RN 4170-30-3 HCPLUS  
 CN 2-Butenal (9CI) (CA INDEX NAME)

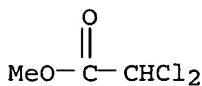


IT 98-87-3, Benzal chloride 116-54-1 513-88-2  
 535-15-9 6482-26-4, Methyl dibromoacetate  
 10565-20-5 49653-47-6 56800-09-0,  
 1,1-Dichloro-2-butene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with copper metal)  
 RN 98-87-3 HCPLUS  
 CN Benzene, (dichloromethyl)- (9CI) (CA INDEX NAME)

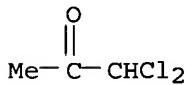


RN 116-54-1 HCPLUS

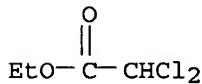
CN Acetic acid, dichloro-, methyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



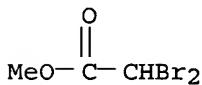
RN 513-88-2 HCPLUS  
 CN 2-Propanone, 1,1-dichloro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



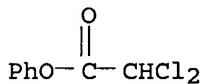
RN 535-15-9 HCPLUS  
 CN Acetic acid, dichloro-, ethyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



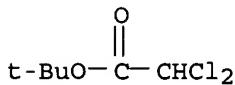
RN 6482-26-4 HCPLUS  
 CN Acetic acid, dibromo-, methyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 10565-20-5 HCPLUS  
 CN Acetic acid, dichloro-, phenyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



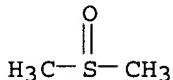
RN 49653-47-6 HCPLUS  
 CN Acetic acid, dichloro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



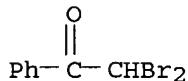
RN 56800-09-0 HCPLUS  
 CN 2-Butene, 1,1-dichloro- (9CI) (CA INDEX NAME)



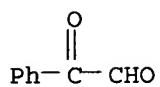
IT 67-68-5, DMSO, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (solvent, for reaction of copper metal with gem-dichlorides)  
 RN 67-68-5 HCPLUS  
 CN Methane, sulfinylbis- (9CI) (CA INDEX NAME)



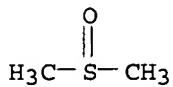
L27 ANSWER 5 OF 5 HCPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1977:43362 HCPLUS  
 DOCUMENT NUMBER: 86:43362  
 TITLE: Study of the reaction of dimethyl sulfoxide with  
 bromo- and dibromomethyl aryl ketones  
 Saldabols, N.; Cimanis, A.; Hillers, S.  
 AUTHOR(S):  
 CORPORATE SOURCE: Inst. Org. Sint., Riga, USSR  
 SOURCE: Tezisy Dokl. Nauchn. Sess. Khim. Tekhnol. Org. Soedin.  
 Sery Sernistykh Neftei, 13th (1974), 188. Editor(s):  
 Gal'pern, G. D. "Zinatne": Riga, USSR.  
 CODEN: 33SUAA  
 DOCUMENT TYPE: Conference  
 LANGUAGE: Russian  
 AB Oxidation of BrCH<sub>2</sub>COR (R = aryl) with Me<sub>2</sub>SO gave RCOCHO and RCOCO<sub>2</sub>Me.  
 Reaction of Br<sub>2</sub>CHCOR with Me<sub>2</sub>SO gave an intermediate arylmethoxysulfonium  
 salt, which was easily decomposed to give Me<sub>2</sub>S and RCOCOBr; MeSO<sub>3</sub>H and Me<sub>3</sub>S+  
 Br- were also isolated from the reaction mixture  
 CC 25-17 (Noncondensed Aromatic Compounds)  
 IT 70-11-1 13665-04-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (oxidation of, with dimethyl sulfoxide)  
 IT 1074-12-0DP, derivs. 15206-55-0DP, derivs.  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 67-68-5, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (with bromo- and dibromomethyl aryl ketones)  
 IT 13665-04-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (oxidation of, with dimethyl sulfoxide)  
 RN 13665-04-8 HCPLUS  
 CN Ethanone, 2,2-dibromo-1-phenyl- (9CI) (CA INDEX NAME)



IT 1074-12-0DP, derivs.  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 1074-12-0 HCPLUS  
 CN Benzeneacetaldehyde,  $\alpha$ -oxo- (9CI) (CA INDEX NAME)



IT 67-68-5, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(with bromo- and dibromomethyl aryl ketones)  
RN 67-68-5 HCAPLUS  
CN Methane, sulfinylbis- (9CI) (CA INDEX NAME)



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